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THE

NATURE AND TREATMENT

OF

VENEREAL DISEASES;

WITH NUMEROUS

CASES, FORMULÆ, AND CLINICAL OBSERVATIONS.

BY

ROBERT A. GUNN, M. D.

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PREFACE.

No attempt has been made to present anything especially new in this work, so far as the descriptions of the various forms of the venereal diseases are concerned. In this particular, the descriptions of Bumstead, Parker, and other writers are closely followed in many instances.

In the treatment of the various diseases, however, I have endeavored to advocate the importance of supporting the vital powers of the system, instead of adopting the depleting method of treatment so generally practiced. I have only taken up such subjects as are likely to come before the notice of the general practitioner, and have omitted all reference to obsolete methods of treatment.

The use of Carbolic Acid is dwelt on at length, and recommended in many forms of venereal disease. I have advocated the use of this agent on account of the decided advantages I have derived from its employment, and from the conviction that a thoroughly antiseptic treatment is best adapted for the cure of venereal diseases.

THE AUTHOR.

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INTRODUCTION.

The question as to the nature and origin of Venereal Diseases is one concerning which much diversity of opinion has existed among medical men; and an examination of the most recent publications on the subject will show that differences of opinion still exist both in regard to the number of venereal poisons and the treatment of the different forms of Venereal Disease.

This disease in some of its forms has been known among all nations, and from the earliest times of which we have any record. Gonorrhœa was known at a very early date among the Hebrews, Greeks, and Romans. Moses, Herodotus, Hippocraties, Celsus, and Cicero, clearly refer to it in their writings; at later periods it is frequently mentioned by a number of Persian, Arabian, English and French writers; and since the close of the fifteenth century it has been so

prevalent throughout Europe, that all practitioners of medicine have been familiar with its existence. Ulcers of the genital organs are also spoken of by nearly all of the early Greek, Roman and Arabian writers on medicine.

Prior to the sixteenth century medical writers advocated the existence of three distinct venereal poisons, each one of which produced a disease entirely different from those produced by the others. About the beginning of the sixteenth century, however, a change of opinion on this matter began to gain ground, and in a few years it was generally conceded that the various diseases known as venereal, had their origin in a common poison. Again medical opinion changed, and belief in the three distinct poisons became the prevailing one; and this is the opinion now held by the masses of the medical profession, and advocated by the majority of the recent writers on this subject.

All writers, both ancient and modern, agree that Venereal Diseases owe their origin to impure sexual intercourse—hence the name—but the attempt to prove that this common origin is an accidental circumstance has failed; and, consequently, some more substantial evidence of the distinctive characters of the venereal poisons must be produced before the profession can accept the doctrine of the "plurality of poisons" as their only guide in the treatment of this class of diseases.

After a careful review of the history of venereal diseases, an examination of the exceptional cases mentioned by the authors who advocate the plurality of poisons, and the close attention I have given to this subject during the past seven years, I cannot but affirm that Gonorrhœa, Chancroid and Syphilis owe their origin to a common poison, variously modified by time, and the constitutional condition of the individual exposed to its influence.

As great a diversity of opinion exists among the medical profession of to-day, in regard to the treatment of venereal diseases, as exists in reference to their origin. Aside from the question of the number of poisons,—which must necessarily modify the treatment,—there are those who agree in the pathology of these diseases, yet differ widely in their treatment. Some claim that the mercurial treatment is the only safety in Syphilis, while others discard the mercurials entirely. In Gonorrhœa many physicians rely wholly on injections into the urethra, while others administer remedies internally with reference to their action on the genito-urinary organs, and claim that injections should never be used; others, again, administer remedies internally, and also make free use of injections. Some recommend the use of harsh injections, while others claim that only the mildest should be used.

I propose, in the present work, to devote a chapter to the discussion of the origin of the various forms of

venereal disease, and then take up, separately, for consideration, each form, and the complication resulting from it. The various methods of treatment will be discussed in the proper places, and in every instance where the results of my own experience differ from those of my brethren in the profession, I will endeavor to support my positions by reports of clinical cases.

THE

NATURE AND TREATMENT

OF

VENEREAL DISEASES.

CHAPTER I.

THE VENEREAL VIRUS.

It is generally believed that there are three distinct venereal poisons, and that each one of these produces a disease, differing entirely from those produced by the others. According to this belief three diseases have been described under the general head of venereal, viz: Gonorrhœa, Contagious Ulcer of the Genitals, or Chancroid, and Syphilis. Each of these diseases is said to contain a specific virus, which, under any and all circumstances, produces a disease identical with the one originating the virus. Gonorrhœa is described as an inflammation of the mucous membrane of the urethra—attended by a profuse discharge of a muco-purulent fluid—of an entirely local character, as it in no way affects the constitution of the patient. Great pains are taken to distinguish between chancroid and chancre, or soft and hard chancre as they are sometimes called. After the distinction between these local ulcers of the genitals is thus stated, it is

affirmed that the chancroid, or soft chancre, is never followed by constitutional syphilis, while the so-called hard chancre is always followed by the secondary effects. From this it is argued that a separate poison is necessary for the formation of these two local ulcers, and the poison that produces the soft chancre can never do more than produce a local sore. While we cannot but admit the marked difference that is sometimes seen in two local sores, yet an examination of a large number of cases will show that the soft chancre often takes an appearance closely resembling those described as belonging to the hard chancre. In addition to this, every physician has met with cases in which well marked constitutional syphilis has followed a soft chancre. This is also true of gonorrhœa. Many persons have been known to suffer from constitutional syphilis who never had any form of venereal disease other than a gonorrhœal discharge from the urethra.

Although the prevailing opinion of the present day favors the plurality of the venereal poisons, I feel confident that a few years will suffice to change the current of professional belief on this point, and establish the fact that there exists but one venereal virus; and that, owing to the condition in which it is found, it may, or may not, produce constitutional effects.

My attention was directed to this subject a few years ago by cases that presented themselves to me for treatment. The first case was that of a captain of a lake schooner who had contracted the disease during a voyage of the lakes, from a woman he had employed as a cook on the vessel. When I saw him his skin was covered with a copper-colored eruption, and a number of ulcerated patches were seen on the lips and tongue. The local sore was small and indurated, and readily yielded to treatment, while the constitutional symptoms yielded very slowly. After the captain had been under treatment for about two weeks he informed

me that the first and second mates of his vessel had also contracted the disease from the same woman. I afterwards treated both these men—one for soft chancre, and the other for gonorrhœa. The one with the soft chancre had three large sores, one upon the glans penis, and two upon the prepuce. On inquiry, I learned that this man had contracted the disease about two weeks after the captain, and the one with the gonorrhœa about four weeks later than the second. After becoming fully satisfied that these men had not been exposed to the disease only through the one woman, I expressed a desire to make an examination of the woman. This I was permitted to do, through the influence of the captain; and the examination revealed the presence of a small, indurated chancre on the inner surface of the right labium minorum. The vagina and os uteri were entirely free from the slightest appearance of disease, but the mouth, throat and integument bore evidence of severe constitutional symptoms. Here were facts that, to all appearance, disproved the correctness of my early teachings, and shook my belief in the existence of more than one venereal virus.

After this, I watched every case of venereal disease with much interest, and close observation led me to discover that the soft chancre was frequently followed by well marked constitutional syphilis. When I stated the result of my observations to other physicians, I was often told that I must have mistaken the nature of the local sore, or that there must have been a hard chancre within the urethra to produce the symptoms I observed. On these two points, however, I could not be mistaken, for, in many of the cases, the local sores not only presented the usual appearances of the soft chancre, but two, three, and even four, appeared on the penis consecutively, and I never failed to examine the urethra to be certain that no concealed chancre existed.

During the early part of 1867, I had excellent opportunities of further investigation of this subject among the lumbermen of the northern part of Michigan. These men go to the lumber woods about the first of November, and remain all winter, returning to the lumbering towns in April or May. In the winter of 1866-67, a woman was employed in one of these lumbering camps, from whom a large number of men contracted the venereal disease. During the spring of 1867 I treated this woman and twenty of the men from the camp. The woman had an indurated chancre on the anterior lip of the os uteri and suffered severely from constitutional syphilis. Among the men treated, I found four cases of hard chancre, with constitutional syphilis, two cases of soft chancre, with constitutional syphilis, six cases of soft chancre, without any constitutional symptoms, and eight cases of gonorrhœa. Of the latter, two cases presented well marked symptoms of constitutional syphilis. These men all said that they contracted their diseases from the same woman, and I was obliged to admit the truth of their statements after learning from the superintendent of the camp that there was no other woman within a range of one hundred miles, and that none of the men had been out of the camp for five months.

Towards the close of 1867, I had opportunities to experiment by direct inoculation, on three persons, under circumstances that could not be considered unjustifiable. In the first case, I inoculated into the arm of a person free from the disease, the virus from a recent, well-defined indurated chancre; and in about twelve days a hard chancre developed at the point of inoculation. About two weeks afterward I inoculated the arm of a second person with the virus from the same chancre, and in nine days a sore appeared at the point of inoculation, having all the appearance of a soft chancre. Still two weeks later I inoculated a third person with the virus from the same hard chancre,

and in this case a soft chancre appeared in eight days, which was followed in a short time by another about an inch from the location of the first. As soon as the local characters of these sores became clearly defined I subjected them to the usual local treatment, to which they yielded promptly. Within two months after the inoculations, constitutional syphilis manifested itself in the first two cases, but no appearance of it could be found in the third case.

The only inference to be drawn from the foregoing facts is, that the virus from the hard chancre is capable of producing the three diseases generally denominated venereal, and that any one of these diseases may be followed by constitutional syphilis under favorable circumstances. My own observations lead me to believe that if a person be exposed to the contact of this virus shortly after its formation in the hard chancre, the resulting sore will be identical with the one producing the virus, and will be speedily followed by constitutional symptoms; but, if some time elapes after the formation of the virus, before a person is exposed, the resulting sore will present the usual appearances of a soft chancre, and may or may not, affect the constitution of the person, according to the length of time that may have elapsed from the formation of the virus to the date of exposure.

The processes that go on in a venereal ulcer, after its formation, are the same as those met with in any other form of ulcer. The sore becomes the seat of an inflammatory action, which is followed by an exudation of serum and plastic lymph. The product of the ulceration is partly removed by absorption and that which remains on the surface of the ulcer is weakened by its mixture with the serum and plastic lymph. In this way the specific venereal poison that is first produced in a hard chancre is weakened, and in a short time it looses much of its virulence and becomes incapable of producing its characteristic sore. As time

elapses it becomes still weaker by this process of dilution and absorption, till at last it is only capable of producing a local sore or an inflammation of the mucous membrane of the urethra. It is in this way that a weakened virus produces a soft chancre, and when weakened still more will only produce an inflammation, and may finally become so weakened as to be perfectly harmless.

I am willing to admit that the virus from a gonorrhœal discharge will not produce a chancre, and that from a soft chancre will not produce a hard one, but I have had abundance of proof that the virus of the hard chancre will produce the soft one as well as gonorrhœa, and that when these affections are so produced, they may be followed by constitutional syphilis. When a soft chancre results from exposure to the virus of a similar sore, the system will not usually be affected; but, if the patient be reduced by sickness, exposure, poor diet or intemperance, the local sore is very likely to be followed by constitutional syphilis. In cases where constitutional syphilis has been known to follow a gonorrhœa, we usually find the vital energies of the patient very much reduced from some cause.

With the view of ascertaining whether the soft chancre was capable of perpetuating itself, I made several experiments about four years ago. I took the virus from a soft chancre, and inoculated it into the arm of a healthy person, and thus produced a characteristic soft chancre. From the sore thus produced, I inoculated a second person, and from the second, a third, and so continued till I had successively inoculated six persons. In each case the sore manifested less marked appearances of chancre till the sixth, in which the puncture in the arm scabbed over and healed in three or four days without producing any ulcer whatever. I repeated this experiment three different times, and each time I obtained the same result. Observation has led me to believe that the poison

from gonorrhœa ceases to produce any disease after repeated transmissions; and, we all know that, after the acute stage of this disease has passed, the discharge is not liable to reproduce the disease in others. From these facts I argue that soft chancre and gonorrhœa would soon become extinct if they were not constantly reproduced by inoculations from the virus of the hard chancre.

In defense of my belief in the unity of the venereal virus, I have only to say that I am not obliged to explain away numerous exceptions to the rules I have laid down. Those believing in the plurality of poisons, and claiming that only one is capable of affecting the general system, are obliged to resort to a description of "mixed chancres," "syphilitic gonorrhœa," and the "co-existence of more than one disease in the same person," in order to account for the numerous exceptions to their rules that are constantly being met with. Again, if we believe that one poison is capable of producing all forms of the venereal disease, and that any of these forms is liable to be followed by constitutional syphilis, if we err at all, we do so on the safe side, by placing our patients on constitutional treatment, whenever we think it best, without regarding the nature of the local disease.

CHAPTER II.

CHANCRES.

The term "Chancre" is the name generally applied to the local venereal ulcers that are produced by the application of the venereal poison. These ulcers are seen to take on appearances widely differing at times, and to this fact is due the belief that each kind of sore is produced by a virus distinctively its own. From my remarks in the preceding chapter, however, it will be seen that I attribute the differences of the action of the poison on healthy tissue, to the changed condition of the one poison, and must consequently treat the subject of venereal ulcers from my own standpoint. The division of local syphilitic ulcers into "chancre," "chancroid" and "mixed chancre," can certainly be recognized, so far as the appearances of the ulcers are concerned, in many cases; but, the very fact that the mixed chancre is one that takes on the appearances of both the chancre and chancroid, is, to me, sufficient to prove their common origin. As the local sore does take on different appearances, I will briefly describe these differences, after first considering the locations in which the venereal sore is usually found.

Location of Chancre.— Chancres may be found on any portion of the body to which it is possible to apply the venereal poison; but as the genital organs are more often exposed to the contagion of this poison than any other portion of the body, they are most frequently found to be the seat of chancres. In persons of uncleanly habits we often find chancres on different portions of the body, as the result of the poison being transferred from the genitals.

The glans penis and prepuce are the most common seats of chancres in the male. They are also found on the skin of the penis, in the meatus and the urethra immediately above it, on the scrotum, arms, lips, tongue, nose, pituitary membrane, fingers and legs. In the female they are most common around the vulva, particularly on the labia, but are also found on the walls of the vagina, the os uteri and in the cervical canal; in other portions of the body they occur the same as in the male.

CONTAGION.—The syphilitic virus must come in contact with a raw surface in order to produce a chancre. This is fully proven from the fact that surgeons frequently soil their hands with the virus without producing any sore, but when the virus comes in contact with a slight scratch or cut they often suffer from a primary syphilitic ulcer at the point of contact. The abrasions so often resulting from violence during coitus, favor the introduction of syphilitic poison and thus give rise to chancres on the genitals Without abrasions the syphilitic virus may come in contact with the penis, vulva or vagina, and remain in contact with the part for a considerable length of time without producing a sore of any kind; and, in fact, the poison may be transmitted to another person and produce a chancre, and yet make no impression on the person thus communicating it. Cases of this kind have been so frequently met with that all physicians should be aware of the fact and willing to acknowledge it, that they may not judge too harshly of many of their patients. Men often contract syphilis from women who have never had the disease, and whose genital organs are in a perfectly healthy condition. In such cases, however, careful inquiry will reveal the fact that the woman thus communicating the disease had, a short time previously, cohabited with a man who had a local syphilitic ulcer. The syphilitic poison was thus left in contact with the healthy vagina, without

producing a sore, and was communicated to the next man cohabiting with her; and, coming in contact with an abraded surface on his penis, a chancre has resulted. In the same way, a husband often communicates a syphilitic sore to his wife, while he himself escapes, and, on this account, he may accuse her of inconstancy. On the other hand, two or more men may cohabit with a woman suffering from chancre, and one may contract a syphilitic ulcer, while the others may escape. On examination of such cases, it will be found that in the case where the sore is produced the virus came in contact with an abraded surface, while, in the other, no abrasion of the penis existed.

Some writers claim that the virus of the soft chancre takes effect more readily than that of the hard chancre, and, as an argument in their favor, they refer to the greater frequency of the soft chancre. This, however, is more likely due to the changes that the virus undergoes by the mixture of serum and plastic lymph, and the lapse of time.

FORM OF CHANCRES.—That primary syphilitic sores do not always present the same external appearance is not to be wondered at. They are exposed to the same causes of irritation, and are extended in the same manner as other ulcers, and the only difference is that they contain a specific virus that always produces similar sores by contagion. The appearances that are generally described as belonging to chancres are all observed in ulcers produced by common causes, although they may be more frequently met with in the primary syphilitic ulcer. When a simple chancre only involves tissues similar in structure, it presents a circular form, which is the result of the ulcerative process extending with equal rapidity in all directions from a common centre; when the chancre is located on structures of different density, the ulceration advances more rapidly at one point than another, and thus an

irregular sore is produced; when the submucous cellular tissue is attacked by a superficial gangrene, the edges of the sore are sharply cut and its floor presents a grayish appearance; when the ulcer takes on a phagedenic nature, its surface and depth extend far beyond its ordinary bounds; and when the ulcerative process is limited by plastic inflammation, the depth of the sore is diminished, its edges are sloped, and the appearance of its surface approximates to the color of the tissue on which it is situated. All these conditions and appearances are met with in the non-specific ulcers, and are merely so many results of common inflammation. The characteristic induration of one form of primary syphilitic ulcer is, however, not met with in non-specific ulcers. Besides these forms of primary sore, we very frequently meet with a superficial erosion, which is speedily followed by constitutional syphilis. This erosion is often overlooked by those who always expect to find some particular form of local ulcer.

Professor Bumstead speaks of five forms that chancres are found to assume, viz: 1. Superficial erosions; 2. Pustules; 3. Simple ulcers; 4. Phagedenic ulcers; 5. Gangrenous ulcers. Though he believes in the plurality of the venereal poisons, he admits that either variety of chancre may assume any of these forms. If this be true, then there can be no means by which we can distinguish, in the majority of cases, between the local sores resulting from the application of the venereal poison; and, therefore, the question is narrowed down to the effects produced by the local sore. If constitutional syphilis follow the sore, the fact is taken as *prima facia* evidence that the chancre must have been an infecting one, and if no constitutional symptoms are developed, that is *proof positive* that the chancre was a simple one.

While I believe that all forms of local syphilitic sores are produced by the one poison, yet, as before stated,

different circumstances may produce different local appearances, and in describing these appearances, I will use the nomenclature and classification in common use at the present day.

CLASSIFICATION OF CHANCRES.—Professor Bumstead describes five distinct classes of chancres, viz.: 1. Simple chancre; 2. Infecting chancre; 3. Mixed chancre; 4. Gangrenous chancre; and 5. Phagedenic chancre. This classification is far from satisfactory, particularly when considered from the standpoint of those who believe in the plurality of the syphilitic poison. The first two express by their names the belief of the author that they are in every way distinct, and that only one is capable of infecting the system. The name given to the third class leads us to believe that he met with chancres he could not classify with either of the first, and he is therefore compelled to call them mixed chancres, because they take on appearances that approximate to each of the others. The two last classes only represent conditions that any sore may assume, and are deserving of notice only as manifesting morbid processes that may require some special attention to remove or correct.

I recognize three primary local conditions resulting from the application of the syphilitic virus, viz.: 1. Indurated chancre; 2. Non-Indurated chancre, and 3. Superficial erosion. These conditions are not always recognized, but are met with sufficiently often to admit of their being separately described. The appearances of these sores are, however, so variously modified by different circumstances, that they lose all distinctive characteristics, or take on so many different appearances, that it is impossible to determine to which class they belong. When a chancre takes on a gangrenous condition, and when extensive ulceration sets in, its appearance is entirely changed, and the conditions thus produced are described as Gangrenous chancre and Phagedenic chancre.

INDURATED CHANCRE.—This form of the primary venereal sore, from the fact that it is most frequently followed by constitutional syphilis, is called by some the "chancre." It is the "chancre infectant," described by M. Ricord, the infecting sore of the English writers, and the "true syphilis" of Mr. Carmichael. It is spoken of by writers as the "true," "hard," "indurated," and "Hunterian" chancre, or "primary syphilitic ulcer."

The *indurated chancre* is small, and of a circular or oval shape, though sometimes it assumes an irregular appearance. Sometimes its floor is slightly excavated, and again it is seen to be elevated above the surrounding integument. A well marked induration or hardness can be felt under and around the base of the ulcer, which is movable, and does not appear to form a part of the tissue on which the chancre rests. At times the ulcer heals before any induration shows itself, and then it appears under the original seat of the sore. In such cases the chancre again shows itself in the substance of the induration, and produces a well defined excavated ulcer. The surface of this sore is smooth, glazed, red, and at times quite dry. It secretes but little, and the secretion, if not artificially irritated, consists of epithelial debris floating in a clear, serous fluid. These characteristics are prominently marked when the chancre is found on the inner surface of the prepuce, where it is less liable to be irritated by exposure to the air, or by friction. It is in this location that the indurated chancre is said to be most frequently met with. When the sore is exposed to the air, it becomes covered with scabs, and the induration is less marked, if not entirely absent.

The induration of a chancre, like induration following any other sore, must result from the effusion of plastic lymph as the result of an inflammatory action. Induration cannot take place without inflammation, and the doctrine that in chancre "the deposit takes

place in the absence of all the symptoms of inflammation," is entirely erroneous. The inflammation may be slight, and during the absence of irritation, plastic matter may be deposited without manifesting marked inflammatory symptoms; but the very existence of a sore necessitates the presence of inflammation, and as induration is produced by the deposition of plastic matter, and this plastic matter is a natural product of inflammation, it follows that the two cannot be separated.

In the indurated chancre, the tissue immediately underneath the sore becomes the seat of a slight inflammation, which is followed by an effusion of a limited amount of plastic lymph. In the absence of irritation the lymph becomes organized, and the resulting hardness is circumscribed, and presents clearly defined boundaries. This induration is generally movable under the skin on account of the loose character of the tissue in which it is situated. It varies in extent and hardness in different localities. Wherever the sore is the most protected from irritation, the induration is the most characteristic; but when situated on denser tissues, or exposed to irritation, the induration may be very slight, or entirely absent. In dense tissue, there is less chance for interstitial deposits, and, consequently, a clearly defined induration cannot take place; while irritation induces ulceration, suppuration, or gangrene, and thus the deposition of plastic lymph is entirely prevented.

The induration of a chancre usually remains for some time after the sore has entirely healed, and in some cases months may elapse before it disappears. An induration following any kind of inflammation requires time for its removal. The organized lymph must be acted upon by the absorbents, and be removed by the process of absorption. If this process be sluggish, the hardness may remain for a long time; but if it is normally active, the indurated mass gradu-

ally softens until it can be no longer detected by the most careful examination.

The indurated chancre, in the majority of cases, exists singly, though many cases do occur where two or more well defined indurated sores are met with in the one person at the same time. If multiple, they are so from the first, as the result of contagion at more than one point, and if single at first, they continue so.

The lymphatic ganglia of the groin become enlarged and indurated, after the appearance of an indurated chancre. A number of these glands become enlarged at once as the result of a slight inflammation produced by the absorption of the virus, but the inflammation is so slight that the usual symptoms of pain, heat, redness and swelling, are absent, and suppuration rarely takes place. Sometimes, however, an active inflammation of the glands sets in, which is characterized by the usual inflammatory symptoms, and terminates in extensive suppuration. This glandular involvement will be fully considered in another chapter.

NON-INDURATED CHANCRE.—This form of primary syphilitic sore has been described by various writers as "chancroid," "soft chancre," non-infecting chancre," and "contagious ulcer." Sometimes the sore appears as a pustule, which remains intact for a short time, and then ruptures, leaving an open ulcer underneath. Most usually, however, this form of sore is an open ulcer from the first, as the virus comes in contact with an abrasion of the surface of the skin or mucous membrane, thus preventing the formation of a pustule. The size and shape of the sore correspond to that of the abrasion in which it starts, but are varied by circumstances after being developed. Starting from a small point, the sore presents a circular outline if situated on tissues of equal density; but if the underlying tissues differ in density, the sore will extend more in

the direction of the lax tissue, and thus present an uneven surface, and the same unevenness of surface will be seen if the abrasion in which the sore developed was large and irregular in shape.

As the name indicates, there is no induration at the base of this form of chancre. This is due to the fact that the process going on in this sore does not tend to produce plastic lymph. The virus first causes an irritation which is soon followed by an inflammation, and the location of the sore being such that more irritation is applied to the part, the process of ulceration sets in, and it is to this process that the sore owes its local appearances. The edges are sharply cut, serated and abrupt; the floor of the ulcer is uneven; presents numerous little elevations and depressions, and is covered by a grayish, or grayish-yellow secretion; the secretion is purulent and copious; is surrounded by areola, varying in depth and color with the degree of accompanying inflammation, and the parts underneath the sore have no appearance of induration. These appearances are all met with in a simple ulcer, so that we cannot but infer that the process of ulceration determines the appearances of the so-called soft chancre on the one hand, while the process of lymphization determines those of hard chancre on the other. The copious secretion from the ulcerating surface mixes with the specific virus, and thus dilutes it till it is incapable of producing its full specific effect; while on the other hand the purulent matter resulting from the ulceration is capable of producing an ulcer at another point, if left in contact with the part for a short time. It is in this way that this form of chancre developes successive sores near the seat of the first one. It is a well known fact that a sanious pus brought in contact with healthy tissue will, in a short time, act upon the tissue as a caustic, and thus produce a sore non-specific in character; but if a specific virus be mixed with this pus, it will afterwards affect the sore,

and may enter the system of the individual. It is on this account that soft or non-indurated chancres are much more common than the indurated variety.

It is said that simple chancres are very persistent. So are simple ulcers that have no connection with chancres. They are of longer duration than the indurated chancre, because they involve a more extensive surface, and the process going on in them is of a destructive character.

The soft chancre may, or may not, be followed by enlargement of the neighboring lymphatic ganglia. When these bodies are affected from the simple chancre, marked inflammatory symptoms are manifested, and suppuration generally follows.

SUPERFICIAL EROSION.—This name is given an abrasion of the skin or mucous membrane, which presents an irritated condition for a few days, with a surface glazed over with a clear, serous secretion. It is often so slight as to entirely escape the notice of the patient, and even when it is noticed, it rarely awakens any apprehension, as a little attention to cleanliness for two or three days will cause it to disappear entirely. Its most common location is in the furrow, behind the glans penis, and being free from any irritation, it heals over without any cicatrix, or any effusion of plastic lymph. What may at first be an erosion, is, however, often converted by slight irritation into an indurated chancre, and by still greater irritation and exposure to the air, to a non-indurated chancre. This superficial erosion is often followed by constitutional syphilis, and for this reason such a condition of the skin or mucous membrane should not be passed over slightingly.

The three local conditions thus described are not always recognizable. Any one of them may be materially changed by surrounding circumstances. A superficial erosion may, by some irritating cause be

converted to an indurated chancre, or even a non-indurated one, and an indurated chancre may lose its induration and take on the appearances of a soft chancre. Such changes in the appearances of the local sores are well known to all physicians, and those who believe in the plurality of the venereal poison are obliged to account for such changes by describing an additional class of chancres, called "mixed chancres." It is claimed for this class that two distinct poisons come in contact with an abraided surface at the same time, and that both acting together produce a sore that partakes of the appearance of each. This theory cannot be supported by their own arguments, for we often find so-called mixed chancres without having the constitutional symptoms developed as the result of the same.

Besides the various modifications that may take place in the sore so as to change it from any of its local conditions, we have complications which entirely change its appearance. These complications are produced by excessive inflammation, or excessive ulceration. When the inflammation of the sore is very great, it often terminates in gangrene, and thus produces what is described as a *Gangrenous chancre;* and when the ulceration is excessive, it produces a condition known as a *Phagedenic chancre.*

GANGRENOUS CHANCRE.—A local venereal sore having any of the appearances previously described, may become the seat of an excessive inflammation that will terminate in gangrene and a sloughing of the surrounding tissues. This excessive inflammation is generally the result of mechanical constriction, want of cleanliness, violence, the abuse of alcoholic stimulants, and any such cause as will tend to lower the vitality of the patient. It is more frequently met with where the sore is confined under the prepuce by a phymosis, which renders it impossible to keep the part cleanly.

In such cases the extremity of the penis and the prepuce become extremely swollen and of a livid color, the gangrenous spot appears on the dorsal surface, and sloughs off the prepuce and the constricted portion of the penis, as well as the seat of the chancre. After the slough is removed, the surface presents the appearance of a granulating wound, and no longer secretes a venereal poison. A constriction, caused by paraphymosis, may be followed by a similar result. It is believed by some that the soft chancre is the most frequently followed by this complication, but close observation proves that the indurated chancre is not by any means exempt from it.

PHAGEDENIC CHANCRE.—This complication of chancre is one in which the process of ulceration is rapid, extensive, and irregular in its progress. It extends in depth and surface far beyond its ordinary bounds, but is often limited in its extent. At times, however, there appears to be no limit to its extent or duration, and in such a case the edges of the sore are thin, livid, œdematous and undermined to such a degree that the ulcer may extend underneath the skin for half an inch or more, while at the same time it presents a very irregular outline. The bottom of the ulcer is very uneven, and covered by a thick, grayish secretion. Bright red granulations often spring up, which bleed on the slightest touch, and are soon removed by the ulcerative process. This form of chancre most frequently attacks the superficial cellular tissue, and extends over a larger surface instead of involving deep tissue. At times the progress of the ulceration may appear to be arrested, and the entire sore nearly filled up by granulation and cicatrization, when it sets in again and destroys the new tissue, and even extends beyond its old limits. The secretion is free, thin and sanious, and is said to retain its contagious properties. When confined to the destruction of superficial tissue,

it is called a *serpiginous chancre*, and when it heals it leaves a whitish cicatrix, similar to that produced by a deep burn.

Sometimes the ulceration extends to the deeper tissue, when the acuteness of the process and the destruction of tissue are greater, and a marked constitutional disturbance is produced. The parts involved are sloughed off to a great extent, and little disposition to heal is manifested. Such symptoms are usually among the intemperate and those whose vitality is greatly reduced, and the condition is described as *sloughing, phagedenic chancre.*

Period of Incubation of Chancres.—The question as to whether chancres have a period of incubation is one concerning which much diversity of opinion has existed. It is generally admitted that the indurated chancre has a period of incubation, while the non-indurated chancre has no such period. Observation proves that a considerable time elapses between the contact of the virus and the appearance of the local indurated sore, while, on the other hand, a very short time intervenes between the contact of the virus and the appearance of the non-indurated sore. This being the case, it is not strange that the opinion that one has a period of induration, and the other has not, should be generally received.

The specific virus of vaccinia, when pure, is known to have a considerable period of incubation, but when mixed with animal impurities, a sore is produced in a much shorter time. This difference results from the action of the impure animal matter upon the tissue with which it is brought in contact, and it is this action that first produces the sore, and then, at a later period, the vaccine virus produces its specific effect, in a modified way, on the sore already formed. In the same way the secretions from the soft chancre, resulting from the process of ulceration, when brought into

contact with an abraded surface, produce in a short time a non-specific ulcer, and, at a later period, the specific virus, acting on the sore thus produced, modifies its appearance somewhat, but, on account of its mixture with other secretions, it is not capable of producing the full effect that it does when coming in contact with a part undiluted.

I believe that chancres have a period of incubation, and that, in all kinds of chancre, the specific effect of the virus is manifested at about the same period after its contact with the part.

DIAGNOSIS.—Believing, as I do, in the unity of the venereal poison, I do not consider it absolutely necessary to determine the variety of the chancre prior to placing the patient under treatment. If the case is seen early and watched during its development, we can generally tell to which class it belongs; but it too frequently happens that it may have existed some time before a physician sees it, and then he is expected to commence a course of treatment after a single examination. Under such circumstances he cannot definitely determine its character, and even Professor Bumstead admits it when he says "the diagnosis may be comparatively easy in most cases, but in many it is difficult, and in some impossible." Now, why should it be impossible to distinguish between sores differing so widely from each other in appearance and effects; and if impossible to distinguish between them, what course should be taken in regard to their treatment? The fact is that a local venereal ulcer may take on a great variety of appearances, and we are entirely unable, in many instances, to determine what its appearance or character may have been on the start; therefore, the only thing we can do is to ascertain what we can concerning its origin, and that, together with its location and general appearance, will enable us to determine that it is due to the con-

tact of venereal virus, and whatever appearance it may assume, we will always be on the safe side if we subject it to such treatment as will the most speedily heal the sore and prevent or remove constitutional symptoms.

TREATMENT.

The treatment of chancres is a subject concerning which much difference of opinion has existed and still exists among the medical profession. At one time it was thought that no chancre could heal without the aid of a mercurial course of treatment, while now it is generally admitted that primary syphilitic sores may heal spontaneously, without the aid of art. That they are sometimes capable of spontaneous cicatrization, however, is no argument against the employment of a course of treatment that will insure the most certain results.

For the sake of convenience, I shall consider the treatment of chancres under two heads, viz.: 1. Local treatment; 2. General treatment.

Local Treatment.—Many in the profession believe that all chancres are at first only local affections, and that the system does not become contaminated for some days after the appearance of the local sore. On the strength of this belief, it is claimed that a thorough and early cauterization of a chancre will destroy the specific poison and leave a simple wound that will heal without any constitutional infection. I think, myself, that in many cases where an early cauterization is resorted to, the poison is so changed or destroyed as to prevent the constitutional symptoms that would have followed had the local sore not been thus treated. There are many, however, who

believe that in the indurated chancre the system is contaminated as soon as the virus comes in contact with the part and before any local sore manifests itself, while they deem cauterization of the non-indurated chancre unnecessary, because they believe that it is never followed by constitutional symptoms.

While these differences exist, it is best to be on the safe side, and whenever a chancre is seen within three or four days after its first appearance, I consider it advisable to make free use of some caustic. If this be done, there is a possibility, to say the least, of destroying the virus and preventing constitutional syphilis, while under any circumstances the sore will be found to heal more readily after the cauterization. If any benefit is to be derived from the application of a caustic, for the purpose of aborting the disease, it must be applied thoroughly and early. It is useless, for this object, to continue the application of caustics for weeks after the sore has developed. The enlargement of the neighboring glands indicates that the diaease is no longer a local one, and caustic applications continued after such enlargement are more apt to do harm than good. One application of a caustic is all that is necessary in any case, if properly applied.

A number of agents have been used as caustics in the treatment of chancres. Prominent among these may be mentioned nitrate of silver, caustic potash, nitric acid, chloride of zinc, sulphate of zinc and carbolic acid. Whatever agent is used, it should be applied so as to reach the deeper parts of the sore. Too much stress cannot be laid on this point, as physicians are too apt to cauterize the surface, while the deeper parts of the chancre remain untouched. This is particularly true when nitrate of silver is used, and, for that reason, cauterization was often known to fail when the nitrate of silver was the only caustic used.

I have met with such flattering success in the treatment of all forms of chancres by the antiseptic treat-

ment, that for several years I have used no other local treatment where I could use the antiseptic dressing.

The chancre is first cauterized thoroughly with the pure carbolic acid. To do this the sore should be well cleansed and the acid applied with a sharp pine stick. The point of the stick, completely saturated in the acid, should be made to reach every point of the sore and underlying induration, until the entire surface presents a white appearance. The specific as well as the septic poisons are destroyed by the acid, and it only remains for us to keep the sore in an antiseptic condition. This, in the majority of cases, is easily done. A piece of surgeon's lint, a little larger than the sore, is saturated in carbolic oil (made by mixing one part of carbolic acid with six parts of boiled linseed oil), and placed over the sore. This is then covered with a paste of carbonate of lime (common whiting), mixed with a solution of one part of carbolic acid to six parts of boiled linseed oil, so as to form a soft putty. The lint laid over the sore must extend beyond its limits and must not be removed till the scabbing process has been completed. The paste over the lint must, however, be changed every day as long as any discharge continues, and thus the lint will be kept constantly in an antiseptic condition, by contact of the acid in the paste. The paste should be applied in a layer about a quarter of an inch thick, and, in removing it, care should be taken not to lift up the corners of the lint. A piece of dry lint should be placed over the paste, and the whole should then be wrapped around with a piece of oiled silk. This dressing can easily be retained when the sore is on the integument or glans penis. If in the vicinity of the meatus urinarius, the dressing must be removed whenever there is a desire to evacuate the bladder. This removal of the dressing prevents the possibility of carrying out fully the antiseptic principle, and it may be found necessary to touch the sore once or twice with

the pure carbolic acid, with the view of destroying any septic poisons that may have come in contact with it.

When the chancre is so situated that we cannot prevent its being covered with the prepuce, I substitute for the above-named dressing a piece of lint saturated in the carbolic oil, and retained in position by drawing down the prepuce over it.

Since adopting the antiseptic treatment for chancres, I have treated a large number of cases, but have not had a single case of either gangrenous or phagedenic chancre. In fact, this treatment effectually precludes the possibility of such conditions developing, while the union of the sores is rapid and in the highest degree satisfactory. Should a case present a gangrenous or phagedenic appearance when first seen, the application of the antiseptic treatment will readily arrest the morbid action and heal up the sore in a very short time.

Many physicians prefer nitric acid as a caustic, and use water dressings poultices, aromatic wine, tannic acid, etc., as local dressings. In my hands such agents have proved far less satisfactory than the carbolic acid, and, consequently, I do not dwell upon them here.

Sometimes the location of the chancre is such as to require special management.

Chancre of the Urethra.—When a chancre is situated within the urethra, the antiseptic treatment cannot be applied, yet it may be reached and cauterized with the carbolic acid, and the part covered by a piece of saturated lint crowded into the urethra. This can be done in the majority of such cases, as the chancre is usually near the meatus. The lint should be withdrawn prior to micturition, and re-inserted after the act.

When the chancre is located in the urethra, beyond the range of vision, it is not always easily recognised. In such cases the discharge is not so great as in gonor-

rhœa, the soreness is confined to a single point, and by examining along the course of the urethra, from the under surface of the penis, a hardness can be felt at the point where the soreness is the most marked. In addition to this, the discharge from a urethral chancre is of a dark color, and usually mixed with blood. Injections of carbolic acid (grs. V to ʒ) may be used when the sore cannot be reached, and in some cases opium injections may be of great value in relieving pain.

Chancres of the Frenum.—Chancres are frequently located on the frenum or bridle. They prove to be very painful, and are liable to hemorrhages. They may commence at the base of the frenum, or on its free margin, and gradually eat it away; or a primary sore, situated near the frenum, may extend to it, first attacking the base, and often completely perforating it in a couple of days.

In treating these cases the surgeon should insist on perfect quiet, as the slightest motion of the parts will stretch the frenum, and thus cause hemorrhage. The sore should be freely cauterized with pure carbolic acid and then dressed with surgeon's lint, saturated in a solution of carbolic acid and boiled linseed oil. The ounce of the oil should contain five or six grains of carbolic acid crystals. After the first dressing the lint should be removed morning and night without retracting the prepuce. It can be easily introduced so as to cover the sore, by pressing it in with a small probe, while a dressing forceps is all that is necessary for its removal. When the frenum is perforated, it is best to divide it with a pair of scissors, and then apply the pure carbolic acid to the cut surfaces. The hemorrhage following the division of the frenum can be readily controlled by the application of the per-sulphate of iron.

Chancres of the Vagina and Os Uteri.—In the local treatment of chancres in women we are obliged to work very carefully. Applications to the sores must

be made through a speculum. When the chancre is situated in the deep portions of the vagina, a speculum with a fenestra in the side must be used, but the ordinary speculum is all that is necessary in cases of chancre of the *os uteri*.

After the speculum is introduced, and the sore brought into view, the part should be thoroughly cleansed and dried with a piece of lint held by the uterine forceps. The carbolic acid or other caustic can then be applied with a pine stick, and the part again dried with the lint. As a subsequent treatment I prefer the carbolic acid wash (gr. V to ʒ), used as an injection twice a day.

GENERAL TREATMENT.—The general treatment, to be adopted at the time a local sore manifests itself, must depend to a great extent on the condition of the patient. The prevailing practice has been to administer alteratives freely from the start, regardless of the constitution of the patient. This practice has been productive of much mischief, as in many cases the disease would manifest constitutional symptoms much sooner than it would if no treatment was resorted to.

When the patient is weak or debilitated from any cause, the administration of alterative remedies always tends to increase the debility, and thus the system is left in a condition favorable to the developement of constitutional syphilis. In such cases, then, instead of giving alteratives I prefer the free use of tonics. These agents build up the patient and restore lost vitality, thus leaving the system in a condition favorable for throwing off the disease. Even in a strong, robust person I deem the long continued use of alteratives of decided disadvantage to the patient. They may, however, be administered with advantage for a short time, but should always be discontinued after a week or two and tonics substituted in their stead.

Iodide of Potassium, Iodoform, Phytolacca Decan-

dra, and Muriate of Ammonia will be found to be valuable alteratives, while the different preparations of iron, manganese, and the bitter tonics, with good nutritious diet are indispensable where we desire to give tone and strength to our patient.

I will give a detailed account of the general treatment referred to here, in a chapter on the treatment of constitutional syphilis, and will close this chapter by saying that we should resort to a general treatment of our patients, regardless of the appearance of the local sore. By so doing, if we err at all, we do so on the safe side, and thus we may often guard against the development of constitutional syphilis, where a doubt might exist in regard to the nature of the primary sore.

CHAPTER III.

BUBOES.

The term bubo is derived from the Greek word "*βον βών*, the groin," and properly signifies an enlargement or tumor of the glands of the inguinal region. The use of the term is not, however, confined to enlargements of these glands, but is also applied to swellings of lymphatic glands in other parts of the body. Any cause that tends to produce an inflammation of a lymphatic gland may give rise to a bubo. An injury of the gland or of the lymphatic vessels leading to it, and the absorption of specific poisons are among the most common causes.

The superficial ganglia are the ones in which buboes always develop. This is doubtless due to the fact that they are more exposed to local injuries, and are in the course of the lymphatic circulation leading from primary venereal sores.

Most modern writers describe three kinds of buboes, viz.: *simple, virulent,* and *indurated.* The last two are described as entirely distinct; the virulent arising from the soft chancre, and the indurated following the hard chancre. As I do not believe in the plurality of the venereal poison, I do not make such a marked distinction between the buboes resulting from the syphilitic sores, and shall consequently only divide buboes into two kinds, the *simple* and *syphilitic.*

SIMPLE BUBO.—The simple bubo has also been called a sympathetic or inflammatory bubo. It is the result of simple inflammation of a lymphatic gland, and may be produced by any cause that tends to excite an inflammation along the course of the lymphatic vessels.

Sometimes a bubo of this kind develops after a primary syphilitic ulcer, and frequently as a complication of gonorrhœa. In these cases it is due to the use of severe applications to the local sore, and to the harsh action of powerful injections. Undue exercise, excessive coition, the use of alcoholic stimulants, and general debility of the system, added to any irritation of the lymphatic vessels, will greatly favor the development of a bubo in the glands in the course of the lymphatics, near which a local irritation exists.

A simple bubo may, or may not, terminate in suppuration. When suppuration does result, the pus secreted is similar to that resulting from an acute abscess in any other portion of the body, and is entirely free from specific properties.

The symptoms of a simple bubo are easily recognized. A hard swelling of the gland, with pain and tenderness, an inability to move the part without great pain, and the usual heat and discoloration met with in inflammation, are the first symptoms that present themselves. If the patient remain quiet for a few days, however, these symptoms may all disappear, and the inflammation terminate by resolution. When the inflammation is severe, the pain bccomes deeper seated, and is of a throbbing, pulsating character. This may continue from one to three or four days before suppuration occurs. When suppuration takes place, the deep seated pulsating pain disappears, the patient often experiences a severe chill, followed by general febrile disturbance, a soft point can be felt in the hardness of the gland which fluctuates on pressure, the skin becomes adhered to the inflamed

parts underneath, assumes a dark, livid color, and is opened by the ulcerative process, and thus gives vent to the pus. If the opening be small, the pus does not readily escape, but is likely to burrow deeply into the surrounding tissues, and thus give rise to diffusive abscesses. The opening of this abscess usually presents the appearance of a simple wound, and heals by granulation in the same manner as do simple abscesses in any other portion of the body.

SYPHILITIC BUBO.—By syphilitic bubo I mean an enlargement of a lymphatic ganglia, resulting from the absorption of the virus from a primary syphilitic sore. The local condition of the sore, as well as the general condition of the patient, influence, to a great extent, the symptoms developed in the diseased gland. If the primary sore takes on the ulcerative process, and develops the local appearances of a so-called soft chancre, the resulting bubo will at first manifest all the symptoms of the simple bubo, and after suppuration has taken place, and the contents of the abscess discharged, the open sore is acted upon by the virus coming in contact with it, and takes on the appearance of a large, soft chancre. This form of syphilitic bubo is more often met with in persons of full plethoric habit. When the local sore is of the indurated variety, and there is little tendency to inflammation, the resulting bubo is also indurated, and there is little tendency to suppuration. On account of this difference, writers have divided these buboes into the Virulent Bubo and the Indurated Bubo.

The Virulent Bubo.—This name is given to the syphilitic bubo that usually follows a soft chancre, on account of the sore left after the breaking of the abscess taking on the appearance of the primary sore. It is produced by the absorption of the virus from the soft chancre, which is carried by the lymphatic vessels to the ganglia nearest the local sore in the course of

the lymphatics. The virus thus absorbed is a mixture of pus and the specific syphilitic poison, and, on account of the ulceration going on in the local sore, it is produced and absorbed in considerable quantity. When it reaches the ganglion a portion of it is retained in the structure of the body, and from the obstruction thus caused the entire gland becomes filled with the poison, which acts now as a foreign body, and gives rise to inflammation. This inflammation soon takes on a specific character, and always proceeds to suppuration. The symptoms attending the development of this bubo are the same as attend a simple bubo, but when the contents of the abscess are discharged, the edges of the orifice of the abscess are acted upon by the specific poison contained in the discharged pus, and a sore is developed that has no tendency to heal, and which closely resembles a phagadenic chancre.

Only one ganglion is affected in this form of bubo, as a rule. This is due to the fact that the poison is lodged in the first gland it meets in the lymphatic circulation, and when inflammation sets in, the entire force of the morbid action is spent at that point. Sometimes, however, the lymphatic vessels leading from the primary sore to the affected ganglion become inflamed, and this inflammation may also terminate in suppuration. This condition always follows the inflammation of the gland, and is due to the lodgment of the virus along the course of the vessels when it can no longer pass through the gland. The poison being thus retained in contact with the vessels for some time, gives rise to an inflammation which cannot take place so long as the virus passes rapidly through the lymphatic vessels.

The time at which this form of bubo develops is variable. It usually appears within the first week or ten days after the development of the pus in the local sore, but it may come on at any period during the

existence of the primary sore, or a week or two after the sore has entirely healed. The absorbents may be very active, and the poison may be freely absorbed without being lodged in the ganglia for any considerable time; or the lymphatic absorption may be very sluggish, and a considerable time is necessary to carry the poison to the ganglia after it has entered the lymphatic vessels.

Indurated Bubo.—This is the name usually given to the form of bubo that most frequently attends the indurated form of chancre. In the indurated chancre there is little tendency to ulceration, and a considerable deposition of plastic lymph, and the same tendency is observed in the bubo that follows it. The specific poison from the primary sore is free from the large admixture of pus, and, consequently, when it reaches the lymphatic ganglia, it does not produce as much irritation. With but slight irritation, we have a slight inflammation, which does not tend to ulceration, but rather to the deposition of the plastic lymph. This lymph, being deposited in the interstices of the ganglia, produces an enlargement, and, as it becomes organized, the induration is produced. The inflammation is very slight in this form of bubo, and sometimes one or more glands may be considerably enlarged before the patient is aware of the fact. On this account some claim that there is no inflammation present, but this belief is absurd, as no induration can possibly take place without a preceding inflammation.

The indurated bubo generally shows itself within a week or ten days after the appearance of the primary sore. It is not, like the other varieties, confined to a single ganglion, but a number of them may be enlarged at one time. This I attribute to the virulence of the poison penetrating more rapidly to the ganglia, while the irritating influence of an unhealthy pus is absent. In this way a violent inflammation is not excited in a single point; consequently a slight

morbid action at several points may go on and thus produce an induration of two or more glands. Should any one of these enlarged glands be injured in any way so as to arouse an inflammation in it, the induration of the others would soon disappear, and it would take on the symptoms and the local appearances of the virulent bubo. This form of bubo rarely terminates in suppuration, on account of the little tendency to inflammation, but suppuration may result when the vitality of the patient is very low from any cause, or when inflammation is excited by some local irritation.

DIAGNOSIS OF BUBOES.—The nature of the primary local lesion will generally guide the surgeon in his diagnosis of the variety of bubo from the start. If this be not sufficient, the absence of marked inflammatory symptoms will clearly point to an indurated bubo, while marked inflammatory symptoms, which subside without suppuration, would indicate a simple bubo. When suppuration takes place, and the abscess opens, if the edges of the open abscess look like a healthy granulating sore, it indicates a simple bubo, but if the sore look like soft chancre or phagadenic chancre, it is evident that the bubo is a virulent one.

Sometimes buboes of the groin are confounded with hernia, but no one who takes the trouble to make a careful examination can possibly be mistaken in the diagnosis between a bubo and hernia. A hernia comes on suddenly, is not attended with any inflammation unless strangulation takes place, is soft and doughy to the touch, recedes when the patient assumes the recumbent posture, can be manipulated without causing pain to any extent, and can easily be returned into the cavity of the abdomen unless of long standing. If the hernia be strangulated, a severe inflammation sets in at the seat of a previously yielding and reducible tumor, passages from the bowels become impossible, vomiting sets in, and the feces are

ejected from the mouth; enteritis and peritonitis follow the local inflammation, and finally the strangulated portion of the intestine sloughs off if the strangulation be not relieved. There is no other condition that is likely to be mistaken for bubo under any circumstances, and even hernia is so different from it that no one familiar with the symptoms of either could possibly be mistaken in the diagnosis.

TREATMENT OF BUBOES.—The treatment of buboes must be modified according to the symptoms developed in each individual case. When the symptoms are of an inflammatory character, local treatment is always advisable, but where the inflammatory symptoms are absent and an induration of the glands the only condition observable, general treatment will be all that is necessary. It is always best to control the inflammation if possible, and thus prevent suppuration. This, however, cannot always be done, and when the inflammatory symptoms become prominently marked, and it is no longer possible to prevent suppuration, it should be hastened by local treatment.

In all cases of enlarged glands, particularly when acute inflammation is a symptom, the patient should be kept as quiet as possible, so as to prevent any increased irritation of the part. Cold applications to the swelling will be found of advantage in reducing the inflammation, and attention should be paid to the condition of the bowels. If constipation exist, a gentle cathartic should be administered, but depletion of the patient should be carefully avoided. The application of tincture of iodine over the inflamed gland, for a few days, will often be found a valuable aid in bringing about resolution. I have also met with good results from the use of the following:

℞

Ammoniæ Muriatis	ʒ i.
Rect. Spts.	℥ i.
Aquæ	ʒ v.

M.

This wash is applied to the part three or four times a day, by laying a piece of lint saturated in it over the part.

If perfect quiet and attention to the general treatment mentioned above fail to arrest the inflammation, it becomes the duty of the physician to hasten suppuration and the subsequent healing of the abscess. For this purpose warm emolient poultices should be freely used. A poultice of linseed meal, or of equal parts of linseed meal and powdered poke root, applied to the gland, will generally hasten the suppuration, so that a distinct fluctuation of the tumor can be felt after two or three days. As soon as pus has formed, it should be evacuated, by making a free incision into the abscess. If this be not done, the destruction of surrounding tissue will be very great, and the general health of the patient will suffer materially.

In opening a bubo, I prefer to use a sharp-pointed, curved bistoury. This is introduced at the most dependent point of the fluctuation part of the tumor, at right angles to the surface, and the point is carried down to the centre of the abscess. The handle of the instrument is then depressed, and at the same time the blade is drawn upward, so that an incision about an inch in length is made by the withdrawal of the bistoury. This gives free vent to the pus, and leaves but a small opening in comparison to the one that would be formed if the abscess is left to be opened by the process of ulceration.

After an incision is thus made, and the accumulated pus allowed to escape, I syringe out the cavity of the abscess with tepid water. After this, I inject into it a strong solution of carbolic acid (20 grs. to ʒ), and afterwards dress the abscess with the antiseptic dressing mentioned in chapter II. This treatment has been followed by the very best results, in my hands, and instead of having large, unhealthy ulcers

remaining for months without any apparent change, I generally find the parts entirely healed in two or three weeks.

In cases where the ulcerative process causes the opening of the abscess, and the sore afterwards takes on the appearance of a soft or phagademic chancre, I first touch the edges of the sore with the carbolic acid crystals, then I inject the cavity with the strong solution of the acid, and afterwards apply the carbolic acid dressing as in any other case.

In indurated buboes, where some local injury has aroused an inflammation, the treatment should be conducted just the same as though the inflammation were present from the first. Where the induration alone is observed, local treatment is rarely of much benefit. Sometimes, however, the indurated gland attains a considerable size, and the patient is anxious to have it removed. In such cases pressure applied by the means of adhesive plasters, or the use of tincture of iodine, together with the usual constitutional treatment, may hasten the removal of the induration by absorption.

Constitutional Treatment.—In regard to the constitutional treatment of buboes, the same differences of opinion exist as do in the treatment of the different forms of chancre. I prefer to administer constitutional remedies in all cases of buboes, for the same reason that I administer the same remedies in all forms of chancre, viz.: that if we err by so doing, we do so on the safe side. I have seen cases of infecting bubo showing themselves after a soft chancre, which have been followed by well-marked, constitutional syphilis. In fact, there are so many exceptions to the rules laid down by the authorities in regard to the nature of chancres and buboes, that it is impossible to account for them in any other way than that there is but one venereal poison. By accepting this theory, we are better prepared to treat the cases that present

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CHAPTER IV.

CONSTITUTIONAL OR GENERAL SYPHILIS.

The term syphilis is derived from the Greek word σιφλος, and is used to denote that form of blood poisoning resulting from impure venereal commerce. The primary sore, already described as hard or indurated chancre, is generally spoken of by writers as primary syphilis, but in common parlance all venereal sores are so spoken of. If we believe in the unity of the venereal poison, and recognize the fact that general syphilis does follow other forms of chancre than the indurated, we must apply the term *primary syphilis* to all forms of local venereal sore.

After the primary sore has entirely disappeared, there is an interval during which there is no evidence of the existence of any disease, but after variable periods of time the poison, heretofore latent, becomes active, and gives rise to various affections of the skin, mucous membranes, iris, periosteum, and other portions of the body. These conditions are described as "Secondary," "General," or "Constitutional" Syphilis.

When constitutional symptoms are met with, they are always traceable to a primary syphilis, excepting in such cases as are said to be of hereditary origin. In all cases where the patients insist that no primary disease existed, a careful examination on the part of

the physician will reveal the fact that a superficial erosion or a urethral discharge preceded the appearance of the constitutional symptoms.

As before stated, my experience has caused me to reject the belief that constitutional symptoms followed none but the indurated chancre. After many cases of well-defined soft chancre, we meet with all the constitutional symptoms that are known to follow the indurated chancre, and cases are not wanting where the same general symptoms have followed an urethral discharge where no concealed chancre existed.

PERIOD OF INCUBATION.—General syphilis, like all other contagious diseases, has a period of incubation. After the appearance of a primary sore, a variable period of time elapses before the constitutional symptoms show themselves.

According to the observations of several investigators, this period varies from 25 to 120 days, but all admit that in the majority of cases the constitutional symptoms show themselves, between 40 and 50 days after the first appearance of the primary sore. When the person is debilitated from any cause, and the vital powers considerably lowered, the period of incubation is quite short, while in the strong and robust, nature resists the contaminating influence of the poison, and hence a longer time elapses before the constitutional symptoms are developed.

The duration of the period of incubation, as above stated, has been arrived at by observing cases that have not been subjected to treatment of any kind. When a proper treatment is resorted to early, the appearance of the constitutional symptoms is generally retarded, if not entirely prevented. We can usually consider our patients safe from general syphilis after three months have elapsed, and if we extend the time to six months we can positively assure them that constitutional syphilis will not develop.

It is well to remember this point in the treatment of primary syphilis, and where there is any doubt about the result, the safest plan is to continue the general treatment for six months. If, at the end of this time, no constitutional symptoms have developed, they will certainly not appear afterward.

CONSTITUTIONAL SYMPTOMS.—Ricord divided the constitutional symptoms of syphilis into *secondary* and *tertiary*, and this division is generally adopted at the present day. The secondary symptoms develop themselves between the third week and sixth month after the appearance of the primary lesion, whilst tertiary symptoms are said not to appear before the sixth month, and may not for several years.

Among the secondary symptoms are enumerated various affections of the skin, spoken of as syphilitic eruptions, mucous patches, condylomata, and superficial ulceration of the mucous membranes; alopecia; onyxis; and engorgement of the lymphatic ganglia, especially of the neck. Changes taking place in the subcutaneous or submucous cellular tissue, forming what are described as gummy tumors, orchitis, periostitis, ostitis, caries, necrosis, and structural changes in the deeper organs are usually classed among the tertiary symptoms. I am, however, inclined to believe that many of these latter symptoms can be directly traced to the evil effects of a mercurial treatment in the primary or secondary stages of syphilis. This view is strengthened by the fact that tertiary symptoms are becoming less frequent as the mercurial treatment is falling into disuse. In another place I will discuss this subject at length, and give reports of cases in proof of my position.

The constitutional symptoms of syphilis appear with much more regularity than is usually supposed. A patient who has been subjected to no treatment for primary syphilis, will, as a rule, be attacked with the

following symptoms within three months, viz.: 1st, a feeling of general lassitude, with headache and occasional darting pains in different parts of the body, loss of appetite, and more or less febrile symptoms; 2d, irritation of the fauces, which is soon followed by an elongation of the uvula, characteristic inflammation, and marked soreness of the throat; 3d, cutaneous eruptions in the form of scaly blotches or papulæ, which first make their appearance on the breast and arms, and afterward over the whole body; 4th, engorgement of the glands in the back part of the neck; 5th, the appearance of whitish patches and superficial ulcers upon the mucous membranes of the mouth, vulva, or anus; 5th, pustules upon the scalp. All these symptoms do not always occur in the one person, but some of them are present in one case and absent in another. This difference is doubtless due to the constitution of the patient, the hygienic surroundings, and to the influence of the treatment given to the patient for the cure of the primary disease.

Sometimes the secondary symptoms show themselves before the primary sore has disappeared. In such cases the healing of the primary sore has been protracted beyond a period of three weeks, while the development of secondary symptoms has not been hastened in the least. Some of the secondary lesions, particularly cutaneous and mucous membrane eruptions, may disappear with or without treatment, and again show themselves the same as at first. When such is the case, the interval of time between the disappearance of the eruption and its appearance is brief, and if a year or more pass without such a reappearance, the patient may be considered safe from any further attack.

CHAPTER V.

TREATMENT OF SYPHILIS.

The treatment of syphilis is the most important subject with which we have to deal in the consideration of venereal diseases. Physician and patient are alike deeply interested in the results of the treatment, and each is anxious to avail himself of such information as will best tend toward effecting a cure of the disease. A correct understanding of the nature of the venereal disease, together with prompt attention to its proper management, will nearly always prevent the ravages so often met with in badly managed or neglected cases.

In the majority of cases of syphilis, the tendency is to go from bad to worse, if not arrested by treatment, but we have abundant evidence to prove that there are exceptions to this rule. Cases do occur in which it would seem that spontaneous cures had taken place. In such cases the general symptoms manifest themselves at variable periods, and after being active for a short time, disappear. After several such attacks, the patient often enjoys complete immunity from further annoyance, without having undergone any treatment. It is also true that many cases seem to resist all treatment, and to follow the same course that they would have done without treatment.

These differences are, in a great measure, due to the condition of the patient during the existence of

the disease. In a robust, healthy person the vital powers are active in efforts to throw off the disease, and it thus happens that nature gains the ascendancy, and the characteristic symptoms disappear spontaneously. If, on the other hand, the vital powers of the patient are below the normal standard, nature is not capable of eliminating the virus, nor of resisting its ravages, consequently the disease makes rapid progress, and the treatment, if alterative in character, only leaves the system more susceptible to the influence of the poison.

All physicians admit that the vital powers of the system do much to ward off attacks of almost every disease, yet many assert that they have no influence in preventing or arresting syphilis. I, however, contend that the vital powers play an important part in controlling the development of syphilis, and that our first duty, in treating this disease, is to build up the constitutions of our patients, if they are the least debilitated. Alteratives will prove valuable remedies for the strong and healthy, but should never be given to the weak and debilitated, as they increase the debility and favor the development of aggravated general symptoms.

The treatment of early constitutional syphilis and the primary venereal sore should always be the same. According to the views advocated in these pages, general symptoms may follow any of the forms of the primary sore, particularly if the patient be debilitated from any cause. This being so, it is best to adopt such a course of treatment as will be most likely to afford protection to the patient.

The treatment of syphilis may be appropriately divided into Hygienic, Tonic, and Alterative, and each of these divisions require a separate consideration.

HYGIENE.—Upon the hygienic condition of patients, much of our succcess in the treatment of syphilis de-

pends, yet it is not often that patients are so situated as to be able to surround themselves with the conditions most favorable for a speedy and successful termination of their cases. So far as regularity in eating, sleeping and exercise, and the indulgence in stimulants, coitus and excesses of all kinds are concerned, I fully agree with most of the writers on this subject, but I consider the starvation theory directly antagonistic to the successful management of such cases. Instead of "stale bread or toast, and other farinaceous articles of food," syphilitic patients should have a generous diet of the most nutritious kinds of food, that the system may be kept in a healthy condition. Without this the vital powers are reduced, the disease is thus permitted to make greater progress, and a long time is necessary to overcome the effects of the virus.

The functions of the skin and bowels should be kept regular, flannel should be worn next the skin and frequently changed, the room occupied by the patient should be well ventilated, daily exercise should be taken in the open air, but not to fatigue, sudden changes of temperature and exposure to a damp, chilly atmosphere should always be avoided, and the mind should be occupied in reading or by the society of friends, so as to be engaged as little as possible with thoughts of the disease. A careful observance of these rules will aid greatly in the successful treatment of all cases of syphilis.

TONICS.—Tonics constitute an important class of remedies in the treatment of syphilis, and they are deserving of much more attention than has heretofore been given them by the profession. In the large majority of cases, hygienic and tonic treatment will accomplish better results than any specific treatment that can be given. The general health of syphilitic patients is usually below the normal standard, and it

is the first duty of the physician to give such remedies as will most certainly restore the vital powers. These remedies are always at hand, and consist of vegetable tonics, quinine, iron, and cod-liver oil. They may sometimes be given in conjunction with specific remedies, but in most cases they should be given alone till the system has been sufficiently strengthened to bear alterative remedies.

An inquiry into the history of many severe cases of general syphilis will show that the disease goes from bad to worse, in spite of a persistent and long continued course of alterative treatment. In these cases, however, we find the general health of the patient greatly impaired, and the continued use of alteratives only tends to still further reduce the vital powers, and thus continues to grow worse instead of better. Now, if the alterative treatment be discontinued in such cases, and tonics freely administered instead, a marked improvement is at once apparent, and the symptoms often disappear entirely, without any further specific treatment.

The selection of the special tonics best adapted for each case must always be left to the discretion of the physician. Iron will always be found serviceable where general debility exists. I have found the best results from the use of carbonate of iron and carbonate of manganese, combined in the form of the saccharine carbonate of iron and manganese. This preparation makes a pill mass which may be divided into three or four-grain pills. From one to three of these pills may be given three times a day, and continued till an improvement in the general health is perceptible. I sometimes give the following remedies in the form of the following:

℞ Ferri carbonatis.....
Manganesii carbonatis.....āā 3 ii.

Tinct. columbæ.....
Syrupi simplecis.....āā 3 iv. M.

Sig. Take a teaspoonful three times a day, after meals.

The mixture should be well shaken before being administered, as the carbonates are not held in solution, but appear as a sediment in the bottom of the bottle. The shaking causes them to be suspended in the liquid for a short time, and they should be taken while thus suspended. The mixture is not a pleasant one to take, but the good results following its use justify its administration in this way, when the patient cannot take pills.

Sometimes cases are met with in which there seems to be marked febrile symptoms, recurring at regular intervals. In such cases quinine will be found the most serviceable remedy that can be used. Again, we often meet with cases in which iron and bitter tonics fail to accomplish any satisfactory results, but a marked improvement is observed under the administration of cod-liver oil.

If the patient give evidence of nervous prostration, strychnine and phosphorous are the remedies indicated. These may be given singly or combined in solution or pill form. I generally prefer the compound phosphorous pill (Hayden's), which may be given in doses of from one to three pills, after each meal. These remedies are also valuable if the patient's mind be harassed by fears of the evil consequences of the disease, or, indeed, if his mind be disturbed from any cause.

After building up the general health of the patient by means of hygienic influences and tonics, specific treatment may then be resorted to, but in no case should the tonics be so long omitted as to endanger the system's again relapsing into a state of general debility.

ALTERATIVES.—The remedies that are generally spoken of as specific syphilitic medicines come under the classification of alteratives. Their action is *substitutive* or antagonistic in character. They increase

the secretions and exhalations, soften textures, promote the absorption of morbid growths and deposits, check or prevent the exudation of plastic lymph, diminish glandular enlargements, and arrest and oppose phlegmonous inflammation of all kinds.

The physician must always bear in mind the fact that alteratives should never be administered when the vital powers are much reduced below the normal standard. Whenever a syphilitic patient applies for treatment, this is the first thing to be looked to. If he or she be strong or plethoric, alteratives may be given from the first, but if the system be debilitated from any cause, they will certainly do more harm than good. Again, alteratives, when long continued, soften and destroy the textures, and impoverish the blood so as to interfere greatly with the function of nutrition. Whenever such results become apparent, their use should be discontinued and the patient at once placed upon tonic treatment.

Much difference of opinion exists, at the present day, in regard to the relative merits of the so-called anti-syphilitic remedies. The mercurials have long been considered the only medicines that are of any value in the cure of syphilis, and the majority of the profession still rely upon them as the sheet-anchor in the treatment of all forms of the disease. There are, however, many in the profession who have discarded mercury entirely in the treatment of this disease, and every candid observer must admit that the success of the non-mercurial treatment has been as great, to say the least, as has ever followed the use of mercury. Personally, I will go much further, and say that the success of the non-mercurial treatment is not only much greater than the mercurial, but that it is also free from many serious complications that almost invariably follow the use of mercury. I have treated many cases of syphilis with mercury, and many without, and from my own observation, strengthened by

the corroborative evidence of many others, I have been led to discard its use entirely; and since abandoning it I have never met with the symptoms of tertiary syphilis in cases where no mercury had been administered. On the other hand, where I have met these symptoms I invariably learned that the patient had previously undergone a mercurial course of treatment. In another place I shall discuss fully the action of mercury in syphilis, and shall pass now to a brief consideration of the special agents that are entitled to a place among the anti-syphilitics.

Podophyllin.—In the early stages of syphilis podophyllin is a very valuable remedy. Those who have administered it in small doses can attest its value as an alterative in many conditions of the system, but few have given it a fair trial in syphilis, fearing, no doubt, that its action was not powerful enough in this disease. When given in alterative doses, I consider it the least objectionable alterative we can use, as its use is followed by none of the unpleasant results that are consequent upon the long-continued administration of other agents of its class. If given in doses of half a grain to a grain, it operates as a mild yet effectual cathartic, and in doses of one-eighth to one-quarter of a grain, or in quantities so small as not to produce purgation, its action is alterative.

When called upon to treat a case of primary venereal sore, I invariably prescribe podophyllin in sufficient doses to produce catharsis, and order it to be taken for two or three nights in succession. After this, if the patient be not debilitated, I continue the remedy in alternate doses, for six or eight weeks, believing that it acts as a prophylactic against the poison, by causing it to be eliminated as soon as it enters the system and before it accumulates in sufficient quantities to manifest the usual symptoms. I administer it in the same way when the secondary symptoms have been developed previous to any

treatment, and continue its use for six months after the symptoms have disappeared. After the disease has become advanced, I combine with it some of the compounds of iodine, which I will speak of further on. It is best to administer this drug in the powder, thoroughly triturated with sugar of milk. The following will be found a convenient and pleasant combination:

℞ Podophyllin.....gr. v.
Sacch. Lactis.....gr. xv. M.

Triturate intimately together, and give of the triturated powder from two to four grains for a cathartic, and from a half to one grain for an alterative. The alterative dose should be given morning and evening, and continued so long as is necessary, provided debility of the system does not take place.

Iodine and its Compounds.—Iodine and its compounds occupy a prominent place among the anti-syphilitic remedies. Some writers claim that they possess little or no power over the secondary symptoms, while they have a decided action upon the tertiary lesions. This position, however, cannot be maintained by reason or fact. Clinical observations of late years have demonstrated that the preparations of iodine have been successfully used in the various stages of syphilis, and there are hundreds of physicians to-day who rely upon it solely in the treatment of the disease, and whose success is quite up to the average. Besides, it is unreasonable to suppose that this remedy possesses no power over a disease at one time, and yet has a very decided action a few weeks later. If it act at all as an anti-syphilitic, it must do so in the secondary manifestations as well as in the tertiary, as the difference in the condition of the system is one of degree and not of kind.

Iodine is a powerful alterative, and it too often happens that it is given in larger doses than is necessary in the early stages of this disease. I am inclined to

think that very powerful alteratives are not required in the early manifestations of syphilis, as they tend to reduce the system below the normal standard, rather than eliminate the accumulating poisons. It is on this account that this remedy has been considered inactive in secondary syphilis. When used in this stage, the doses should be small, and it should never be given to a debilitated person.

The compounds of iodine are preferable to the pure scales, as they are less likely to cause irritation of the mucous membrane of the alimentary canal. The preparation most commonly used as a remedy in syphilis is the iodide of potassium. When carefully administered, this agent certainly possesses a powerful influence over syphilitic symptoms. Small doses should be given at first, and then the dose can be gradually increased until the full effect of the drug is produced. So long as the system does not suffer from its wasting effects, the results following its use are very satisfactory, but as soon as the vital powers begin to be lowered, its beneficial results cease, and its further use must be discontinued, and the patient placed upon tonic treatment.

Some persons are entirely insensible to the influence of iodide of potassium, and in such cases it is useless to continue its administration after a fair trial. There are others again who cannot take the smallest quantities of the drug without its producing very unpleasant results. Some are attacked with a severe coryza; some with œdema of the conjunctiva and swelling of the lids; some with great irritation of the fauces, bronchitis, and œdema of the glottis; some with severe gastro-intestinal irritation; and others with loss of vision dependent upon effusion behind the retina. If any of these effects continue to be persistent, the use of the drug should be abandoned.

We frequently find various eruptions upon the skin in the form of papules or pustules, and some-

times furuncles or boils following the use of this remedy. These eruptions are most commonly met with on the face and neck, and are generally supposed to result from the action of the remedy in driving out the syphilitic poison through the pores of the skin. Their appearance is, therefore, looked upon as indicative of a favorable action of the medicine. That this supposition is erroneous is evident from the fact that similar eruptions invariably follow the use of iodide of potassium in persons who never suffered from syphilis.

There is another chain of symptoms produced by the continued use of iodide of potassium that is generally described under the name of *iodism*. It consists of a sensation of oppression in the head, ringing in the ears, neuralgia, spasmodic action of the muscles, impaired voluntary motion, and sluggishness of intellect. When these symptoms manifest themselves, the drug should be discontinued and phosphorous freely administered till they disappear.

Iodide of potassium deliquesces rapidly on exposure to the atmosphere, and is, consequently, not adapted for administration in the form of pills and powders. It is usually given in solution, and the usual dose is five grains three times a day, and always after meals. In the majority of cases of secondary syphilis this quantity is sufficient to produce a decided impression on the system within a week or ten days. When used early in the disease, however, it is better to commence with two-grain doses, which may be gradually increased to five or more, if necessary. In some cases, particularly those of long standing, small doses seem to have little or no effect, but if the quantity given be increased to twenty, thirty, or even sixty grains at a dose, the results, for a short time, are almost magical. These large doses must, however, never be continued longer than a week at a time, and not so long if any unfavorable results follow their use.

This remedy is generally administered alone, but it

may sometimes be combined with other remedies with apparent advantage. Should it appear to lose its good effect upon the system, it should be discontinued and some other alterative substituted in its stead.

It may be given in the following forms:

℞ Potassii Iodidi..... ʒ ii.
Syrupi Simplecis..... ℥ vi. M.

Dose—Teaspoonful three times a day, after meals.

Ricord generally prescribed the syrup of orange peel as a menstruum, as follows:

℞ Potassii Iodidi..... ʒ i.
Syrupi Corticis Aurantii..... ℥ vi.

Dose—Tablespoonful three times a day. M.

Dr. Durkee combines with the iodide of potassium the carbonate of ammonia. His formula is as follows:

℞ Ammoniæ Carbonatis..... ʒ iss.
Potassii Iodidi..... ʒ iii.
Syrupi Sarsap. Comp.....
Aquæ .....āā ℥ iiss. M.

Dose—Teaspoonful three or four times a day.

Dr. John P. Batchelder, of New York, thinks the action of the iodide of potassium is increased by combination with muriate of ammonia, and this combination is approved by Dr. Bumstead. The following is the formula:

℞ Potassii Iodidi.....
Ammoniæ Muriatis .....āā ʒ i.
Tinct. Cinchonæ Comp..... ʒ iv. M.

Dose—A tablespoonful three times a day.

Muriate of Ammonia.—The attention of the profession has recently been called to the muriate of ammonia as an alterative. Little has been said of it as an anti-syphilitic, but I have used it with apparently good results in cases of syphilitic glandular enlargement, after other remedies had entirely failed. It may be given in five-grain doses, three times a day, and the dose gradually increased till thirty or forty grains a day are administered. Should it tend to produce an irritation of the stomach, its use should not be persisted in.

Phytolacca Decandra.—Poke root has decided alterative properties, and is entitled to a place among the anti-syphilitic remedies. It is well adapted for the early stages of this disease, and may be given in the form of the fluid extract. It may be given alone or in combination with iodide of potassium. I administer it according to the following formulæ:

℞ Fl. Ext. Phytolaccæ Decandræ..... ʒ i.
Syrupi Simplecis..... ʒ v.
Sig. Teaspoonful three times a day, after meals. M.

℞ Potassii Iodidi..... ʒ ii.
Fl. Ext. Phytolaccæ Dec..... ʒ i.
Syrupi Simplecis..... ʒ v.
Sig. Teaspoonful three times a day, after meals. M.

Sarsaparilla and Stillingia.—Decoctions and syrups of sarsaparilla and stillingia have been extensively used in the treatment of syphilis, and wonderful alterative virtues have been claimed for them. Even at the present day one or the other of these articles enters into almost every prescription for syphilis, and the market is flooded with sarsaparilla and stillingia compounds that are claimed to possess wonderful properties as "blood purifiers." These preparations, which are all proprietary medicines, do possess alterative properties, but they all contain iodide of potassium in considerable quantities, and it is to this ingredient that they owe whatever alterative virtues they possess. Physicians, in prescribing stillingia and sarsaparilla, always combine some other agent with them, which is itself a decided alterative. In this way there is no means of telling what is the action of these articles.

I have often administered the remedies in question, and have carefully watched for some results, but have never been able to discover that they produced the slightest effect upon the systems of my patients, and, in this opinion, I have the support of hundreds in the profession who have experimented with these remedies and arrived at the same conclusion as myself in

regard to their action. The most that can be said in favor of the syrups of sarsaparilla and stillingia is that they form pleasant menstrua in which to administer other remedies.

Iodoform.—Iodoform is a drug that has recently been introduced to the notice of the profession as a remedy possessing anti-syphilitic properties. It is obtained by the action of chlorinated lime upon a heated alcoholic solution of iodide of potassium. It possesses the alterative properties of iodine, besides a marked anodyne influence. It is given in pill form, and in doses ranging from one to three grains. I have used it to advantage in cases where the secondary manifestations of syphilis were attended with pain and sleeplessness, and it is valuable as a topical application to irritable syphilitic ulcers. It is as a local application that I have used it with the greatest satisfaction, and it will, therefore, receive attention in another place.

DURATION OF TREATMENT.—No general rule, that can be relied on, can be laid down in regard to the length of time the treatment of syphilis should be continued. It is always well to commence constitutional treatment as soon as the local venereal sore is discovered, and to continue it for about three months. If, at the end of that time, no general symptoms manifest themselves, the treatment may be discontinued without danger to the patient. If general symptoms have already developed, the treatment should be discontinued from three to six months after all syphilitic symptoms have disappeared.

On examining the throats of syphilitic patients, we find that the uvula and soft palate present a congested and livid appearance, which often extends far forward on the roof of the mouth. A distinct line of demarcation marks the extent of this congestion. Anterior to this line the mucous membrane of the mouth pre-

sents its natural appearance, while posteriorly the parts are livid, and, at times, almost purple. This condition is present long after all other symptoms have entirely disappeared, and I have frequently observed that, as the patient improved, this congested appearance receded until, finally, the parts assumed their natural appearance. Upon the strength of this I have based a theory which I have never heard stated heretofore. It is this: so long as any of this livid appearance remains on the soft palate or uvula, constitutional syphilis may develop after the treatment is discontinued, but if these parts regain their natural appearance, it is evidence that the poison has been entirely eradicated. This theory may be rather far-fetched, but I have watched case after case in which this congestion receded, under treatment, day after day, till it was entirely gone, when I discontinued treatment and never had a recurrence of the disease. On the other hand, I have dismissed cases in which there still remained a congestion of the tip of the uvula, and, in periods ranging from three to nine months, general symptoms have invariably reappeared. These circumstances may have been merely coincidences, but are none the less deserving of attention.

RECAPITULATION OF TREATMENT.—On the appearance of the local sore, administer podophyllin in doses sufficiently large to produce catharsis, and repeat the same for two or three nights in succession. Now, if the patient be not debilitated, the podophyllin may be continued in alterative doses, or it may be combined with iodide of potassium, according to the following formula:

℞ Potassii Iodidi..... ʒ ii.
Tinct. Podophylli peltati..... ♏ i.
Syrupi Simp..... ʒ v. M.

DOSE—Teaspoonful three times a day, after meals.

After a couple of weeks the quantity of iodide of

potassium may be increased to three drams for the above mixture, and, in two weeks, four to five drams.

In place of the foregoing, the phytolacca decandra may be used with good advantage, according to the following:

℞ Fl. Ext. Phytolaccæ Decandræ..... ℥ i.
Syrupi Simp..... ℥ v. M.

Dose—Teaspoonful three times a day.

Combined with iodide of potassium the following is a convenient form:

℞ Potassi Iodidi..... ʒ ii.
Fl. Ext. Phytolaccæ Dec..... ℥ i.
Syrupi Auranti..... ℥ ii.
Aquæ..... ʒ iii. M.

Dose—Teaspoonful three times a day.

In all cases where the vital powers of the patient are reduced from any cause, good diet and tonics should be freely given before commencing an alterative treatment, and even afterward the patient should be kept on a tonic treatment every alternate week.

In cases of long standing attention must first be given to the general health of the patient, and he or she must be surrounded by the best hygienic influences. Iodide of potassium, in large doses, can now be given for a week at a time, and then discontinued for a few days. If there be much induration of the glands, muriate of ammonia, alone or combined with the iodide, will prove particularly serviceable; and if any of the symptoms are attended with pain or sleeplessness, iodoform should be given in preference to any other remedy. In all cases the alteratives must be discontinued, if the system of the patient begin to suffer, if they do not produce the desired effect, or if any unpleasant symptoms be developed by their use, and tonics should be substituted. When an alterative has lost its effect, increase the dose, and if this does not do, substitute another.

A very important point to be considered in the treatment of this disease, is the mental condition of

your patient. Recommend cheerful company, speak encouragingly at all times, and advise that the mind shall be kept occupied, so that thoughts of the probable results of the disease may not produce despondency.

CHAPTER VI.

MERCURY IN SYPHILIS.

From the writings and teachings of many of the American physicians the young practitioner, who may be investigating the therapeutics of syphilis, would be likely to infer that mercury was the only remedy that could be relied upon for the cure of the disease, and that it would always cure it without any harm to the patient. A careful review of the whole subject, however, will prove that, among those in Europe and America who have given the therapeutics of syphilis the most careful investigation, there appears to be a strong and growing opinion, amounting, in many instances, to positive conviction, that mercurials are not the best anti-syphilitics, but, on the contrary, are often entirely powerless as curative agents, and, in many instances, do more harm to the patients than the virus they have been supposed to eliminate.

The use of mercury in the treatment of syphilis dates back to within fifty years of the time when the disease first attracted the attention of the medical profession. Since that time it has been considered by many the most reliable anti-syphilitic known, yet a large number of the most careful investigators have pronounced against it, and certainly the most recent observations prove beyond any doubt that its use as

an anti-syphilitic is attended with less favorable results than the non-mercurial treatment. We have also sufficient evidence to prove that it is productive of much harm to the system of the patient.

As early as 1788, Hunter, in his "Treatise on Venereal Diseases," stated that, while mercury was useful in certain forms of syphilitic disease, there were others in which it was of no benefit, and that both these classes could be cured without the metal. Dr. Adams, in his "Observations on Morbid Poisons," published in 1807, and Dr. Carmichael, in his "Essay on Venereal Diseases," published in 1814, expressed opinions similar to those of Hunter; while Francis Joseph de Besnard, Medical Inspector-General of the Military Hospital of Bavaria, published in 1809, his advice, founded on extensive experience, against the use of mercury in venereal affections.

During the great Peninsular war, the British army in Portugal suffered severely from syphilis. Mr. George Ferguson, then a surgeon in the British army, found that syphilis was treated without mercury throughout Portugal, and he employed the same means among the British troops with the most flattering success. When he called the attention of the profession in England to this fact, it was asserted that the disease in Portugal must exist in a milder form than in other parts of the world. This assertion, however, was soon disproved by the successful treatment of many cases of the disease, in Great Britain and France, without a particle of mercury. Shortly after this, Drs. T. Rose, J. Bartho, and J. Hennen, in Great Britain, L. Kroger, Hill, Guthrie, I. Thompson, and others, in Germany, and MM. Charmeil and Richoud, in France, promulgated the same doctrines as Ferguson, and demonstrated that all syphilitic affections, whether primary or secondary, could be cured without the use of mercurials. Dr. L. J. Begin, a therapeutist of note thirty-five years ago, wrote as

follows: "It is now certain that mercurial preparations, far from being always successful against irritations of the genitals, even in their mildest form, frequently exasperate them and occasion considerable mischief. Nay, more; in many constitutions mercury itself produces irritations more obstinate and dangerous than those against which it is administered. In a word, this metal, under whatever shape it is administered against primary inflammations or ulcerations, does not safely prevent secondary and syphilitic irritations of remote parts. In this respect, the adversaries of the mercurial treatment have the advantage in their favor, inasmuch as they cure their patients with less danger, and with equal chances against relapses."

The Medico-Chirurgical Transactions of Great Britain for 1817 contains a record of the results obtained by a number of physicians in curing several hundred patients without the use of mercury, and with a much smaller percentage of secondary cases than in those where the drug had been used.

About the year 1817 many of the best physicians of Europe pronounced in favor of the non-mercurial treatment of syphilis, which led to a careful and systematic trial of this method of treatment, and the collection of valuable statistics of the results obtained. In April, 1819, J. McGregor and Wm. Frincklin addressed a circular to the physicians of the British army, in which they stated that out of 1940 patients treated for primary ulcerations of the penis, 96 had various kinds of secondary symptoms; and only 12 of the entire number were submitted to mercurial treatment. In regard to the duration of treatment in the cases just mentioned, and many others, Drs. McGregor and Frincklin make the following statement: "That the average period required for the cure of primary symptoms, without mercury, where buboes do not exist, was twenty-one days, and, with mercury,

thirty-three days." "That the average period of cure of primary symptoms, with bubo, was forty-five days, when treated without mercury, and fifty days when treated with mercury." "That the average period of cure of secondary symptoms, without mercury, was from twenty-eight to forty-five days, and, with mercury, fifty days." "When it is recollected that these results are derived from the observation of nearly five thousand cases, they must be admitted to afford pretty fair means of comparison, and to possess a high degree of value." M. Desruelles, of France, who wrote a work on "The Treatment of Venereal Diseases without Mercury," kept a record of one thousand three hundred and twelve cases, and, after this experience, states "that the mean duration of the treatment of primitive and secondary symptoms, without mercury, was thirty-two days, and, with mercury, fifty days." M. Richoud, after observing nearly three thousand cases, states "that of those treated without mercury, for the primitive symptoms, ninety-two per cent. were cured in thirty days, while of those treated with mercury only twenty-eight per cent. were cured in that period, and of those treated for buboes, without mercury, sixty per cent. were cured in thirty days, while of those treated with mercury only twenty-seven per cent. were well in that time."

Further observations by the investigators above mentioned show that secondary symptoms occurred, on an average, in about four per cent. of the cases treated without mercury; while in the cases treated with mercury the average percentage of cases of secondary syphilis was eight per cent.

In 1827, Dr. Fricke, after devoting special attention to observations on this subject, wrote: "The results obtained by this mode of practice are satisfactory. Chancres and buboes are speedily cured, and the cicatrices are by no means so evident as when mercury has been employed." Again, in speaking of the

results of treatment in the hospital under his charge, he says: "The average period of cure for primary and secondary affections, treated without mercury, was fifty days, while it was double that time in those treated with mercury."

M. Desruelles, after practicing the non-mercurial treatment for a number of years, resolved to test what influence mercury would have on cases that were improving favorably under the simple treatment. In regard to it he says: "I determined to administer mercury to the patients as soon as, from the influence of the simple treatment, the symptoms began to wear a favorable aspect; but I found the cure not only retarded, but more difficult to accomplish, as there was always some new symptom appearing to impede it. On account of these new observations, I resolved to make comparative experiments on every symptom individually. I devoted the year 1826 to these experiments, and, finally, being convinced that mercury was unnecessary when the simple and anti-phlogistic treatment had been rigidly pursued, I abandoned its use altogether, and, since January 1st, 1827, up to the present day, I have not administered one single atom of mercury, whether my patients were laboring under the primitive or secondary symptoms of syphilis. For more than a year I have sought, without prejudice, for a single case where mercury could be substituted for anti-phlogistics, but not one has presented itself." Dr. Hennen, while Deputy Inspector of the military hospitals of Scotland, gave this subject great attention for nearly two years, beginning with June, 1820. He came to the conclusion that primary sores of the genitals, of every description, could be cured without the use of mercury, and also arrived at a similar conclusion in regard to the secondary symptoms. In his "Principles of Military Surgery" he says: "The facts at present ascertained are these: Secondary symptoms occur more frequently and appear at an earlier

and more determinate period than when mercury had been used; but they, in many cases, go off as soon, never, as has been supposed, proceeding from bad to worse, or from one succession of parts to another in unabated violence. On the contrary, they by no means exhibit the same violent and unrelenting symptoms which we have observed, in many instances, where mercury has been used; the symptoms have not run into ulceration, nor have the bones of the nose, or of other parts been, in any instance, affected with caries." Dr. Isaac Hays, of the *American Journal of Medical Science*, in his preface of the American edition of M. Desruelle's work on "The Treatment of Venereal Diseases without Mercury," writes as follows: "For ourselves, in ten years' practice, we have never put a patient through a mercurial course for any form of venereal affection, and for the last six years we have not used a particle of mercury in the treatment of this disease, and have never had reason to believe that our patients were less speedily or effectually cured than those treated with mercury; of those treated by us for primitive symptoms, in Philadelphia and in Southern dispensaries and private practice, we know of but two cases of secondary symptoms." Ricord, in speaking of this subject, says: "I can confidently assert that, except in a few cases, the so common employment of mercurial preparations, either as dressings or internally, is most hurtful in phagadenic chancres. It is by no means uncommon to see these ulcers, when approaching the period of separation, relapse under the influence of mercury into their former state, and chancres which were at first limited and regular, become phagadenic simply from the employment of mercury."

The foregoing facts are but a tithe of what might be collected to prove the superiority of the non-mercurial over the mercurial treatment of syphilis. The experience of surgeons during the last decade is de-

cidedly in favor of the non-mercurial treatment, and I believe the time is not far distant when mercury will be discarded by those who are the strongest advocates of its use to-day.

During the past six years of my practice I have relied wholly on the non-mercurial treatment in all forms of syphilitic affections, and the results have been far more satisfactory than those I had previously obtained from the use of mercury. Having been taught to believe that mercury was the only reliable anti-syphilitic known to the profession, I very naturally prescribed it in all cases coming under my observation prior to 1869. Of the patients treated by me up to that time I kept a careful record of 200 cases. Of these 130 presented the usual characteristics of the soft chancre, while 70 were well-defined indurated chancres. These cases were all treated locally with mercury, and in the 70 cases of indurated chancre the internal use of mercury was commenced at once. The average duration of treatment in the 130 cases was 40 days, and in the 70 cases 30 days. Secondary symptoms developed in 25 out of the 130, and in 40 out of the 70 cases. The mercurial treatment was continued in all the cases in which secondary symptoms manifested themselves, with a mitigation of the disease in 20 cases after the treatment had been continued from six to nine months. In the remaining 45 cases the symptoms went from bad to worse, producing extensive ulceration of the soft tissues, iritis, periostitis, and, in some cases, ostitis.

In the latter part of 1868 I abandoned the mercurial treatment entirely, and of 400 cases treated since that time only 40 have presented any secondary symptoms. I have found the average duration of the non-mercurial treatment to be 25 days. Of the 40 cases in which secondary symptoms manifested themselves, not one presented any of the aggravated conditions generally described as tertiary syphilis. During the past year

I have treated 35 cases of general syphilis in persons who had been previously treated for primary syphilis. Of these 10 had periostitis, 6 had extensive ulceration of the soft palate, 4 suffered from iritis, and the other 15 had various mild cutaneous eruptions. By a little inquiry I was enabled to ascertain definitely that 15 of the sevère cases had been subjected to the mercurial treatment in the primary stage of the disease, and I am of opinion that the other 5 had also been so treated, though I was unable to ascertain the fact.

By conversing with physicians on this subject, I find that nearly all who have given it any attention agree as to the advantage of the non-mercurial over the mercurial treatment. Very frequently I have heard physicians say: "I have not met with a single case of tertiary syphilis since I abandoned the use of mercury." It is also universally admitted that the disease disappears more rapidly without mercury than with it.

From the foregoing facts it is evident that syphilis can be cured more rapidly and more effectually by the non-mercurial than the mercurial treatment. Suppose, however, that each was equally effectual in curing the disease, are there any other reasons why mercury should not be used as a remedy? We all know that salivation is a very common result of mercurial treatment, and that it frequently produces great destruction of tissue, and, consequently, ugly deformities, and is at all times painful and disgusting to the patient. We also know that the metal accumulates in the system and tends to produce diseases of the periostium and bones. It also diminishes the quantity of red corpuscles in the blood and depletes the system more rapidly than any other remedy. Now, in the treatment of syphilis, or any other disease, these conditions should be avoided, the blood should be enriched instead of impoverished, the system should be restored to a normal condition instead of having other diseases excited, and every effort should be made to

assist nature to throw off the poison that has been introduced into the system. Now, we cannot avoid the conditions brought about by the use of mercury, and, at the same time, rely upon it as an anti-syphilitic remedy. On the other hand, the non-mercurial treatment builds up and restores the general system, while, at the same time, the syphilitic poison is eliminated and the patient left free from complications that might annoy him for years. The choice between the two methods of treatment is easily made.

CHAPTER VII.

SYPHILODERMATA.

Syphilitic affections of the skin are not so easily distinguished from other eruptions as might be inferred from reading the descriptions given of them by the various writers on this subject. They, however, present certain peculiarities, which, taken together, enable us to arrive at a correct diagnosis of their true character.

The color of a syphilitic eruption is now generally spoken of as a *copper color*, but it is more properly a reddish-brown, with a slight admixture of yellow. This color cannot, however, be relied on as a diagnostic sign, as the same may be present in various forms of skin diseases in no way connected with syphilis, while it is never seen in mucous patches or at the commencement of a syphilitic erythema. The circular form so generally described as being assumed by syphilitic eruptions is not so common as we have been led to suppose. It is often absent in the early eruptions of syphilis, and is chiefly confined to eruptions which appear at a late stage of the disease, while lepra, herpes, and other non-syphilitic eruptions generally assume this form.

In order to arrive at a correct diagnosis in regard to the character of a supposed syphilitic eruption of the skin, we must first inquire into the history of the

case. If a local venereal sore preceded the eruption by a period ranging from three weeks to six months, we might then reasonably look for other signs to aid us in our diagnosis. Syphilitic eruptions are very persistent, there is an entire absence of pruritus, and, frequently, a coexistence of various forms of syphilitic eruptions on the same person. It is often important to note the seat of the eruption as a means of diagnosis. For example, syphilitic acne often involves the thighs and legs, while simple acne is always confined to the face, trunk and upper extremities. In many doubtful cases the results of the treatment will determine the nature of the eruption, as it will rapidly disappear under the usual treatment for syphilis, if it be of syphilitic origin. If it be non-syphilitic, however, it will not be influenced by such treatment. It must, however, be borne in mind that a syphilitic eruption does not always disappear promptly under treatment.

The symptoms are best described in connection with the various forms of eruptions that are known to result from the presence of general syphilis. Prof. Bumstead describes nine varieties under the following names, viz.: Syphilitic Erythema, Papules, Squamæ, Vesicles, Bulæ, Pustules, Tubercles, and Ulcers.

SYPHILITIC ERYTHEMA.—Syphilitic erythema, or syphilitic roseola, as it is frequently called, appears in the form of irregular rose or pale red-colored spots, which disappear on pressure. They are isolated or variously grouped together in circular, eliptical or quadrilateral groups, and are upon a level with the surrounding surface. Sometimes the cutaneous capillaries are sufficiently distended by congestion to produce a slight elevation of the blotches and to give them a brighter red appearance, which does not entirely disappear on pressure. This eruption appears earlier and more frequently than any other syphilitic affection of the skin. Its development is slow and

insidious, and it generally makes its appearance upon the abdomen, thorax, axillæ, arms and thighs. It may often exist for some time before being discovered by the patient, as it is generally unattended by febrile disturbance, heat, or pruritus.

The color of syphilitic roseola gradually changes to a faint copper color in the majority of cases, and unless arrested by treatment, it remains visible for at least six weeks, and may not entirely disappear for as many months. A slight exfoliation of the epidermis takes place as the roseola disappears, and the integument assumes a dingy look, which remains for some time. If the treatment be suspended too soon, or if the system of the patient be greatly reduced by indulgence in alcoholic stimulants, poor diet, or exposure of any kind, relapses are likely to take place within a period of six months.

The usual time for the appearance of this eruption, when uninfluenced by any treatment, has been ascertained to be between the thirtieth and sixtieth day after the contagion. It is, however, met with between the second and third month, very rarely as late as the fourth or fifth month, and never beyond that time, excepting as a relapse, or in cases where treatment had delayed it for a time, and was not continued sufficiently long to effect a cure of the disease. When it once makes its appearance, however, it may remain for a longer period than six months.

Following the appearance of syphilitic erythema, we may have developed scabs upon the scalp, copper-colored papulæ on the forehead, pustules and papules on different portions of the body, engorgement of cervical ganglia, pains about the joints, alopecia, mucous patches and impetigo at the junction of cutaneous and mucous surfaces.

Syphilitic Papules.—Syphilitic papules are small, hard elevations of the superficial layers of the skin,

situated in the immediate vicinity of the hair follicles. They may be scattered over a large extent of surface, arranged in circles or grouped closely together, and always surround the bases of the hairs, which fall out as the papules develop. At first they are rose-colored or bright red, and the color readily disappears on pressure, but they soon assume a copper color, which no amount of pressure can entirely efface. On account of the forms which the papules assume, they are divided into the *lenticular*, in which they are broad and flat; the *conical*, in which their length exceeds their breadth; and the *miliary*, which are very small, with their summits at first surmounted by a slight effusion of serum.

This eruption, though belonging to the early stages of constitutional syphilis, is less frequently met with than syphilitic roseola, which often precedes it. At first it generally shows itself in the same locations as syphilitic roseola, but, unless arrested by proper treatment, it is apt to extend over the entire body, with the exception of the hairy scalp. The papules develop slowly, and in the order in which they appear, so that we may often see them in their various stages of development upon the same person. In a few exceptional cases, however, they develop so rapidly as to cover the entire body in a few days. In such cases an effusion of serum takes place on their summits, which soon dries and forms a scale on top of the papule.

Syphilitic papules seldom disappear, even when under the most appropriate treatment, till after the first or second month. The disappearance is marked by the gradual fading of the copper color, a usually copious desquamation of the epidermis, and a slight pruritus. Depressions of the skin, caused by interstitial absorption, frequently remain for several months after the disappearance of the papules, and they sometimes terminate in suppuration or ulceration, if subjected to any long-continued irritation.

The same concomitants follow syphilitic papules as

are met with after syphilitic roseola, with the addition of iritis, which is occasionally met with.

SYPHILITIC SQUAMÆ.—Prof. Bumstead describes squamæ as a distinct variety of the syphilodèrmata, though many authors do not recognize it as such, from the fact that the desquamations of the epidermis in the latter stages of many of the other eruptions assume the appearance of squamæ. These scaly eruptions are, however, of sufficiently frequent occurrence, independent of the other syphilodermata, to entitle them to a separate consideration.

Syphilitic pityriasis is met with upon the scalp, eyebrows, and those portions of the face covered by the beard. It is also sometimes found in the axillæ and over the pubis. The scales are irregular and thin, and derive their name from their resemblance to bran. They exfoliate repeatedly, and are thrown off in large quantities, but never form crusts nor produce excoriation. This condition may succeed erythema or papulæ, or may occur without any other form of syphilitic eruption having preceded it.

Syphilitic psoriasis has much larger and thicker scales than the preceding, and may develop upon any part of the body. It is sometimes squamous from the first, but most frequently it succeeds an eruption of papules. Sometimes the patches are small and scattered, sometimes large and continuous, and again they are arranged in the form of circles. The centres of the patches are depressed and the circumferences prominent, which is the reverse of the appearance of the patches in the common psoriasis. An inflammation exists in the integument beneath the patches, which gives a red color to the part and hides the copper color. After the falling off of the scales, the cicatrices are slightly depressed, but this disappears after a few months.

Syphilitic psoriasis rarely appears except in weak

and anemic patients, and even in these a proper attention to hygienic rules and a well-directed tonic treatment will almost invariably prevent its development.

SYPHILITIC VESICLES.—Syphilitic vesicular eruptions are very rare, but when they do occur, they appear between the first and fifth month after contagion. The back, face and extremities are most frequently affected by them, and they have been shown to be seated chiefly in the hair follicles. Sometimes the vesicles are large and globular, and sometimes small and accuminated, while they may be scattered irregularly over the surface or arranged in groups.

There are several varieties of syphilitic vesicles which closely resemble the vesicular eruptions of a non-syphilitic character. One resembles varicella, another resembles eczema, and a third resembles herpes. In the first variety the vesicles are large, accuminated or globular, in some cases depressed in the centre, scattered over the surface, and surrounded at their bases by copper-colored areolæ. Their contents soon lose the serous character and become purulent. In the second variety the vesicles are small and diffused, or collected together in groups. The serum may retain its transparency, or may become absorbed. In the latter case a fine desquamation takes place without the formation of scabs. The third variety may consist of large globular vesicles, seated on dark red bases and arranged in irregular groups, or they may be smaller and arranged in circular or ovoidal groups, in the same manner as the varieties of non-specific herpes. A fourth variety is described, in which the bases are hard and firm papular elevations. These bases remain for some time after the vesicles have ruptured or the fluid has been absorbed.

Vesicular eruptions do not long retain a vesicular appearance, but terminate in the formation of scabs

or scales. These are very persistent, and when they disappear they leave behind them small, copper-colored depressions or cicatrices, which disappear in a short time. These eruptions seldom occur alone, but are accompanied by syphilitic eruptions of erythema, papules, or pustules.

SYPHILITIC BULLÆ.—Syphilitic eruptions, described under the name of Bullæ, are characterized, as the name indicates, by the large bubbly appearance of the vesicles at the commencement of the eruption. Two varieties of bullæ are recognized by modern writers, viz.: pemphigus, usually met with in infants with congenital syphilis, and rupia.

Pemphigus.—Pemphigus, as a variety of syphilitic eruption was not mentioned by any of the older writers. It is, at the present day, described as being due to hereditary syphilis; but little is said of the nature of the hereditary transmission. My own opinion is that a mother must be afflicted with constitutional syphilis during the period of utero-gestation, in order to communicate to an offspring, at birth or in early infancy, pemphigus, or any other form of syphilitic eruption of the skin.

In this form of bullæ the versicles vary from a quarter of an inch to an inch in diameter. They are not fully distended with fluid, and are consequently not much elevated above the surrounding surface. They are circular or oval in shape; their bases are violet-colored and extend for some distance beyond their margins; their contents are serous, sero-purulent, or sero-sanguinolent in character; they rupture to admit of the escape of their contents, and they generally terminate in desquamation.

This eruption is usually present at birth, and is confined to the palms of the hands and the soles of the feet. Infants thus affected rarely survive the effects of the disease.

Rupia.—Syphilitic rupia first shows itself in the form of a reddish spot, tender upon pressure, upon which a vesicle filled with bloody serum soon appears. The contents of this bulla dries into a greenish-yellow scab, in the course of three or four days. This scab is thin at first, and the surface underneath it has taken on the appearance of an ulcer. The purulent discharges from this ulcer become desicated, and the scab is thus increased in size in all directions. Its base becomes circular or oval; it often rises in the form of a cone, above the level of the surrounding surface; its sides are uneven and striated; its color is a yellowish-brown, or sometimes almost black; it is surrounded by a dark-red or copper-colored areola, and the ulcer beneath it is deep, with abrupt and sharply cut edges.

Syphilitic rupia is among the most persistent of the syphilitic eruptions. As the first formed begins to disappear, fresh scabs and ulcers form near them, so that the eruption may be seen in its different stages. The scabs should be protected from injury so that they may be prevented from becoming more extensive, while at the same time the healing process may be hastened. The cicatrices left after the scabs drop off have a dark-brown appearance, which remains for a considerable length of time before it entirely disappears.

This eruption in one of the latest of the syphilodermata that makes its appearance, and is also attended with other forms of eruption.

SYPHILITIC PUSTULES.—Syphilitic pustules are more frequently seated on the scalp than on any other portion of the body, though there is no part of the integument where they may not appear. They often commence on the head and extend to the face, neck, body and upper extremities, particularly in anemic patients, and in cases in which the disease assumes a

very malignant character. The lower extremities, however, are the parts principally affected in some cases. Like some other forms of syphilitic eruptions of the skin, the hair fallicles appear to be the points on which syphilitic pustules are first seated.

There are three forms of syphilitic pustules, viz.: ecthyma, impetigo, and acne. The order in which they are named corresponds with the frequency of their occurrence.

Syphilitic Ecthyma.—Syphilitic Ecthyma is the most frequent of the syphilitic pustular eruptions. It may affect all parts of the body, especially the lower extremities, and is frequently seen upon the scalp when syphilitic roseola or papules are present on other parts of the body. The pustules are of large size and commence in the form of red and indurated spots, the centres of which become raised by the effusion of pus, about the second or third day. This effusion of pus spreads rapidly, till it covers the entire inflamed surfaces, soon after which the epidermis is ruptured and the pus escapes and hardens into broad, brownish scabs.

When the pus hardens into a scab the surface underneath it is ulcerated, and sometimes this ulcer, as well as the pustule, has a tendency to increase in size and depth, while in many cases this tendency is slight. This tendency has caused ecthyma to be divided into two kinds, viz.: superficial and deep. In the superficial variety the scab does not increase materially beyond the size it first assumes, and when it drops off, or is removed, a superficial ulcer is exposed, which soon heals, leaving a permanent, shallow cicatrix, resembling the scar of small pox. The scab, in the deep variety, is increased in size in all directions by the constant addition of purulent matter from the ulcer. It protrudes above the surrounding surface, is sometimes depressed at the centre, is made up of consecutive rings or layers, sometimes it slightly over-

laps the edges of the ulcer, while again it may be so small as to leave a part of the ulcer exposed. If the scab be removed, a deep ulcer, with abrupt edges and a floor covered with a grayish secretion, is brought to view. After the ulcer has healed, a depressed cicatrix is left, which at first presents a dark, red color, and afterwards a dull white, which never entirely disappears.

Sometimes the pustules of syphilitic erythema are situated so closely together that they unite and form a large scabby patch, which has a great tendency to extend over a larger surface.

The superficial varieties of syphilitic pustules belong to the early periods of constitutional syphilis, and generally extend over a considerable surface, while the deep varieties belong to the late periods of the disease, and are confined to one or two portions of the body.

A pustular eruption following syphilis indicates an anemic condition of system, and where the deep variety of the eruption is developed, the vital energies must be very much below the normal standard, and the prognosis in such cases must be decidedly unfavorable.

Syphilitic Impetigo.—In syphilitic impetigo the pustules vary in size, are flat, isolated or in groups, with bases of a coppery red color and slightly elevated, or sunken within a prominent border of the same color. The scabs are of a grayish or greenish-yellow hue. This eruption is most commonly met with around the alæ of the nose, at the commissures of the lips, and in the beard and eyebrows, but it is also seen on the trunk, scrotum, and the upper and lower extremities.

When situated upon the commissures of the lips and around the nasal orifices, patches of these pustules arrange themselves in circles, which are surrounded by prominent borders or copper-colored areolæ. When located on the lips, they are often continuous with

the mucous patches seen on the mucous membrane of the mouth. When seated in other portions of the body, the pustules frequently rest upon hard elevated bases of a dark red color, the scabs are greenish-yellow, and the integument beneath is ulcerated.

Syphilitic Acne.—In syphilitic acne the pustules are small in size, seated upon an elevated base, have little tendency to spread, and remain stationary for several weeks before scabs are formed. The scabs are small, dry, and of a grayish or yellowish-brown color, and when they fall off, a slight desquamation of the underlying surface takes place, which leaves a characteristic copper color behind. In a few exceptional cases a superficial ulceration takes place. Syphilitic acne is not confined to the upper part of the body, but extends to the lower extremities, and may sometimes be confined to those parts. When seated upon the upper part of the body, it is distinguished from simple acne by the papular elevation left by the falling off of the scab, by the copper color of the underlying surface, and by the coexistence of other syphilitic symptoms.

Syphilitic Tubercles.—Syphilitic tubercles are solid elevations of the skin, of larger size and greater depth than the papular eruptions previously described. They belong to the later symptoms of syphilis, are always preceded by some other form of syphilitic eruption, as erythema or papules, and manifest a great tendency to ulceration. They may be seated on any portion of the integument, but instead of being spread over the whole surface, they are confined to one, two, or three locations, and if they extend further, it is by slow and gradual progress. They are seen upon the face more frequently than in any other portion of the body, but they are also met with to a considerable extent on the lower extremities. The attendant ulcerations often cause a total destruction of the lips and

alæ of the nose, while, in the lower extremities, it produces large ulcers of a very intractable character.

The changes of structure upon which syphilitic tubercles depend are sometimes confined to the hair follicles, and sometimes to the conical eminences of cellular tissue upon the internal surfaces of the derma. They may also commence as small tumors in the cellular tissue under the integument, and, becoming adherent to the surface, they thus give rise to ulcers.

Syphilitic tubercles are divided into two classes, viz.: Those which terminate in desquamation or resolution, and those which suppurate and form ulcers.

The tubercles of the first class are hard bodies, ranging in size from that of a small shot to a cherry. They occupy the whole thickness of the skin, and project above its surface to variable degrees, are isolated or in groups, and may be either flat, conical, or hemispherical. They usually have a bright red color, are sometimes tense and shining, sometimes surmounted by a thin scale, which soon falls off only to be reproduced and sometimes covered by scabs, without deep ulceration. They are often aggregated in circular or irregular groups. When such aggregation occurs, the tubercles may remain distinct or slide into each other, leaving the centre of the patch entirely free from any emption. The patch is frequently enlarged by new tubercles forming external to the old ones as they begin to disappear. These changes take place slowly, and may sometimes continue for years after the first appearance of the tubercles.

The second variety of syphilitic tubercle may develop by the process of ulceration taking place either beneath the thin dry scab which may have covered the tubercle for some time, in the summits of the tubercles at an early stage of their existence, or in the interior of the small tumors developed beneath the skin, in the cellular tissue. The ulceration may go on and destroy, not only the entire tubercle, but it may

extend into the surrounding tissue. The patches of this form of tubercle are arranged in the same manner as those of the dry variety.

The extent of the ulceration varies greatly in different cases. Sometimes it is superficial, with a thin scab and a marked tendency to cicatrization; sometimes it is deep, with a thick scab of a greenish-yellow color, either protruding above the surface or sunken within the borders of the ulcer. After the superficial ulcers the cicatrix quickly disappears, while, after the deep ones, it is permanent. Sometimes these ulcers become serpiginous and spread over a large extent of surface, and penetrate far into the deeper tissues, thus causing fearful ravages.

The cicatrices left after these eruptions are deep, of a copper color, which gradually changes to a dull white, and the surface is marked with numerous depressions which mark the site of the original tubercles.

Ulcerated syphilitic tubercles are not accompanied by other superficial syphilitic eruption, but they are frequently followed by syphilitic orchitis, periostitis, and ostitis.

Syphilitic Ulcers.—Syphilitic ulcers are not generally described as a distinct form of syphilodermata, but on account of the frequency with which they occur as the result of other eruptions, they are deserving of separate consideration. These ulcers originate in vesicles, pustules, or tubercles, and have, therefore, been described in the preceding pages. They often remain, however, as open ulcers long after all appearance of the original eruption has entirely disappeared.

Ulcers having their origin in a vesicle are superficial and scattered in great numbers over a large extent of surface; those from pustules, occurring early in the disease, are numerous, but deeper than the former; while the ulcers of pustules, occurring in the latter stages of the disease and from tubercles, are

limited in location and very destructive in their action. When once developed, these ulcers may progress much like non-specific ulcers, sometimes assuming an active condition, and again presenting symptoms of a chronic character. They can be distinguished from the non-specific ulcer by the history of the case, the coppery red color of their edges, and the coexistence of various stages of the eruption in the same person, or the presence of other forms of the syphilodermata. The treatment of syphilitic ulcers is of great importance, and will be fully considered with the general treatment of the syphilodermata, in the next chapter.

CHAPTER VIII.

TREATMENT OF THE SYPHILODERMATA.

In addition to the general treatment of syphilis, laid down in a previous chapter, we find that many of the syphilitic eruptions of the skin are greatly benefited by local treatment. It is, however, important to carefully observe the effects produced by the constitutional treatment in each particular form of the syphilodermata, as by so doing we are better able to determine the class of remedies demanded by each case.

As a rule the older writers recommend the use of mercury for the superficial eruptions which terminate in desquamation, and iodide of potassium for the deeper eruptions, which were attended by suppuration and ulceration. This method of selecting remedies, regardless of the general condition of the patient, has been productive of much harm, and cannot be too strongly condemned. As previously stated, alteratives should never be given to a debilitated patient, nor should they be continued long at a time, no matter what may be the form the disease has assumed.

From carefully observing the results of treatment in the early stages of syphilis, I am satisfied that the continued use of mercury, instead of arresting the disease, tends to develop the deeper eruptions and causes extensive ulcerations. In support of this position I can refer to the fact that the deeper eruptions

are less frequently met with at the present day than when mercury was the only remedy used as an anti-syphilitic. If the general treatment of syphilis, given in a previous chapter, be carefully observed from the first appearance of the primary sore, few eruptions of the skin will manifest themselves, and those that do will be of a superficial character, and will readily disappear under a continuation of the treatment.

When the deeper eruptions and ulcerations manifest themselves, we generally find the patients debilitated, either as the result of the long-continued use of alteratives, or from causes acting previous to the contagion. Alteratives should, therefore, be avoided in such cases, and every attention should be given to the hygienic surrounding of the patient. Tonics are the remedies to be selected, and they should be continued till the vital energies of the patient are fully restored, when alteratives may be given for a few weeks at a time.

Much difference of opinion prevails in regard to the value of local applications in the treatment of the syphilodermata. Some authors claim that they are of great value, while others declare them to be entirely useless. My own experience is that a hot bath three or four times a week is of decided advantage in the treatment of all kinds of syphilitic eruptions of the skin, in keeping the pores in an active condition, and thus favoring cutaneous exhalations. In the superficial eruptions other topical applications are of no value, and their application only details useless labor on the patient or his attendant. In the deeper eruptions, however, and particularly those that are followed by extensive ulcerations, topical applications often prove of decided advantage in hastening the resolution of the parts.

Upon the first appearance of the deeper eruptions, sulphur vapor baths, two or three times a week, often prove of decided advantage. The effect of these baths should, however, be closely watched, and they

should be discontinued if they have the slightest tendency to weaken the patient. Even when eruptions pass on to the stage of ulceration, an occasional sulphur vapor bath may be used with benefit.

It is customary with most physicians not to remove the scab which covers the sore in the deep syphilitic eruptions till the ulcer heals by the use of internal remedies and it dries up and falls off of its own accord. This, however, is not the wisest course, for as soon as suppuration takes place, the accumulating sanious pus corrodes the surrounding tissues, and thus extends the ulceration in all directions. It is best to arrest the ulceration as soon as possible, and this can only be done by removing the unhealthy pus from the sore and using such local remedies as will promote healthy action. As soon as pus appears in a syphilitic eruption the part should be thoroughly cleansed with tepid water, and then the surface carefully touched with carbolic acid crystals. After this the carbolic acid paste should be applied in the same manner as recommended in the treatment of primary venereal ulcers. In cases where the sore is covered by a scab, a poultice of linseed meal may be applied till the scab is softened, when it can be easily removed and the underlying sore treated as above. When the antiseptic treatment is carefully carried out, the results are highly gratifying to physician and patient.

In some cases carbolic acid produces so much irritation as to make it impracticable to continue its use, and in others the odor is so disagreeable to the patients that they will not allow it to be used. Under such circumstances I have used Kennedy's Extract of Pinus Canadensis, and the results have been highly satisfactory. The following form gives us about the proper strength of the extract:

℞ Kennedy's Ext. Pinus Canadensis..... ʒ i.
Glycerine ..... ʒ iii.
Water..... ℥ ii. M.

Sig. Dress the sores with lint, saturated in this mixture, morning and evening. Sometimes the carbolic acid dressing may be discontinued as soon as the ulcers present a healthy granulating appearance, and a wash of the Pinus Canadensis substituted in its stead.

In order to better describe the course of treatment to be pursued in syphilitic ulcers, I give below a couple of cases from practice:

Case I.—W——— R———, aged 28, consulted me October 10th, 1872, with reference to syphilitic ulcers involving the left leg, from the ankle to the knee. He had been under the treatment of three different physicians for a period extending over three years and a half, during which time the ulcers gradually extended till they involved nearly the whole leg. On questioning him about his treatment, I ascertained that he had taken mercury, in different forms, almost continuously, and that he also applied a white powder to the ulcers. (I ascertained, on examination, that this powder was calomel.)

I cauterized the ulcers thoroughly with carbolic acid crystals, and then applied carbolic acid paste as a dressing. The paste was made according to the formula of Prof. Lister, as follows:

℞ Carbolic Acid..... ʒ i.
Olive Oil..... ʒ vi.

Mix and add common whiting (carbonate of lime) enough to make a thick paste. A piece of surgeon's lint was first saturated in the mixture of oil and carbolic acid and laid over the ulcers, and this was covered with a thick layer of paste. I directed that the paste should be changed every day without removing the lint.

After a week or ten days I removed the dressings and found the ulcers very much improved, and presenting the appearance of healthy granulations. As

the carbolic acid was very disagreeable, I discontinued its use and ordered the following :

℞ Kennedy's extract of pinus canadensis.. ℥ i.
Glycerine..... ℥ iii.
Water..... ℥ ii.

Mix and use as a wash morning and evening.

Internally I ordered the saccharine carbonate of iron and manganese as a tonic, and iodide of potassium as an alterative, to be taken alternate weeks. Under this treatment the patient gradually improved, until the ulcers were nearly healed, when they seemed at a stand-still. At this stage I ordered the patient to take a sulphur vapor bath three times a week, which was continued with the other treatment for three weeks, at the end of which time the ulcers were entirely healed. The tonics and alteratives were continued for about six weeks afterward, when the patient was discharged cured.

Case II.—J——— P———, aged 34, suffered with syphilitic ulcers on the legs for six years. He knew he had taken mercury whenever he was under treatment, and thought it was the only remedy that would effect a cure. I first ordered him to take a dozen sulphur vapor baths, after which I cauterized the ulcers with strong carbolic acid, and applied the carbolic paste as in Case I. At the end of two weeks I ordered the pinus canadensis wash as before, and continued the baths during the whole treatment. I also ordered good nutritious diet, and alternated my tonics and alteratives, which I continued to give for five months. At the end of the second month the ulcers were all healed, and at the end of the fifth a very slight discoloration of the cicatrices was all that could be seen where the extensive ulcers had been.

Sometimes syphilitic ulcers take on a sluggish condition, which is little affected by the applications mentioned above. In such cases great benefit is often

derived from the application of iodoform. The iodoform should be reduced to a fine powder and sprinkled over the surface of the ulcer once a day. This application, while it acts as a sorbefacient, also allays irritation, and is, therefore, used with advantage when the ulcers take on an irritable character. This remedy should never be applied after the ulcers begin to manifest a tendency to healthy granulations.

The same care should be taken in dressing syphilitic ulcers as is recommended in the management of non-specific ulcers. They should be washed with a gentle stream of water, and friction of all kind should be avoided, particularly after the process of granulation has commenced. When the ulcer is filled up by granulations, cicatrization must be favored by quiet. Dressings of all kinds should be avoided, as they tend to irritate and, probably, destroy the newly forming cicatrix. After the cicatrix has formed, it should be protected as much as possible from external violence, as it is often destroyed by ulceration, resulting from irritation, and the ulcer may thus be opened to as great an extent as it was before any treatment had been commenced.

CHAPTER IX.

ALOPECIA AND ONYCHIA.

Persons suffering from severe constitutional syphilis so often lose their hair and nails that writers deem sypilitic affections of these appendages of sufficient importance to devote a chapter to their consideration. Alopecia is a much more common affection than onychia, and will therefore be considered first.

ALOPECIA.—Alopecia is very frequently met with as an early symptom of constitutional syphilis, and also in the last stages of the disease. It is most commonly met with when the cutaneous eruptions extend to the scalp, but may take place before any eruption of the skin is manifested. Sometimes the quantity of hair falling out is so slight as to escape attention for a considerable time, while again handsful may be removed by passing the hand lightly through the hair. This loss of hair is not always confined to the scalp, but may extend to the eyebrows, eyelashes, beard, and the hair over the pulvis and in the axillæ.

When alopecia occurs as an early symptom of constitutional syphilis, it rarely results in permanent baldness. The hair may continue to fall out for a time, if the patient be at all debilitated, but as soon as the system is restored to its normal standard this tendency ceases, and new hair begins to grow.

In the later stages of syphilis the falling out of the hair often results in permanent baldness. This condition I believe to be due to the influence of a long-continued course of alterative treatment, rather than to the disease. Iodide of potassium, if given in large doses for any length of time, will almost invariably cause a falling out of the hair, even when given to persons who never had any syphilitic affection. Now, when we consider that this remedy has been so extensively used in the later stages of syphilis, regardless of the debilitating effects its long-continued use has upon the majority of persons, it is not strange that alopecia should be met with in the later stages of syphilitic affections.

Treatment.—The early form of alopecia requires no special treatment other than that directed to the general treatment of the disease. As the system improves the hair ceases to fall out, and what has been lost is rapidly reproduced. If local applications be recommended, they should only be such as will act as gentle local stimulants.

The falling of the hair, in the later stages of syphilis, requires more special attention. If the patient has been taking alteratives, they should be immediately discontinued and tonics freely administered. The entire scalp should be shaved once a week, and gentle stimulating lotions applied to the surface twice a day. The following formulæ may be used as local stimulants to the scalp:

℞ Tincturæ Cantharidis..... ʒ i.
Olei Ricini..... ʒ ii.
Spiriti Recti..... ʒ iii. M.
Sig. Use as a wash, morning and evening.

℞ Spiriti Ammoniæ Aromat.....
Glycerinæ .....āā ʒ i.
Aquæ Rosæ..... ʒ vi. M.
Sig. Use as a wash.

Alkaline washes and friction with a brush or comb should always be avoided, as such treatment is more apt to do harm than good.

ONYCHIA.—Syphilitic onychia is not a common affection. It occurs at a late period of constitutional syphilis, shows itself during the existence of pustular and squamous eruptions, and most frequently affects the nails of the fingers. The integument around the base of the matrix becomes inflamed and swollen, it assumes a red appearance, is tender on pressure, soon becomes detached from the nail, and its epidermis exfoliates. The nail becomes thickened, opaque, dry, rough, and turned from its natural direction, while its vitality is completely destroyed. In the advanced stage ulceration of the matrix takes place and pus accumulates around it. Sometimes the ulceration is so extensive as to destroy the entire matrix, in which case the nail drops off and is not reproduced.

Treatment.—Onychia usually improves under the general anti-syphilitic treatment, and the new nail springs from the matrix and pushes the old one before it. Whenever pus accumulates around the matrix, it should be allowed to escape and the part occasionally washed with a solution of carbolic acid. This precaution will often prevent the complete destruction of the matrix, and consequent permanent loss of the nail. The newly forming nail should be protected against irritation, as a new inflammation might be set up and the nail again destroyed.

CHAPTER X.

SYPHILITIC AFFECTIONS OF THE MUCOUS MEMBRANES.

Attempts have been made by authors to classify syphilitic eruptions of the mucous membranes in the same way as the syphilodermata have been classified. This, however, cannot be done with any degree of satisfaction, as the continuous moisture and exposure to friction of the mucous surfaces render it impossible to establish as correct a classification of the syphilitic eruptions of these surfaces as has been arrived at in syphilitic eruptions of the skin. The analogy which exists between erythema and tubercles, as manifested on the cutaneous and mucous surfaces, is so close as to make them almost identical, but when we get beyond these a similarity can rarely be traced.

ERYTHEMA.—Erythematous eruptions of the mucous membranes make their appearance between six and eight weeks after contagion, when not influenced by the treatment of the primary lesion. Any of the outlets of the mucous canals may be affected, although the fauces, pituitary membrane and genital organs are most frequently the seats of erythema. In many instances the patient and physician may fail to discover it for some time, on account of the slight degree of inconvenience it occasions. It presents an appear-

ance of congestion and redness upon the fauces, which is sometimes diffused over the surface, sometimes circumscribed in patches, and sometimes œdematious. It frequently terminates in the formation of mucous patches. Erythema of the mucous membrane covering the glans penis and lining the prepuce is occasionally met with, without any eruption of the skin, and may in time be followed by syphilitic pustules and other cutaneous eruptions.

ULCERS.—Authors describe three varieties of syphilitic ulcers of the mucous membranes, which are all sufficiently common to be seen and recognized by every physician.

1. The first are superficial erosions, and do not penetrate the epithelium. In these the mucous membrane becomes congested in a circumscribed spot, a slight effusion of serum takes place beneath the epidermis, which is soon completely detached and thrown off. The surface thus exposed is smooth, polished, and sometimes covered with a slight exudation, and forms what is known as a superficial erosion or aptha. Erosions of this kind may appear upon the fauces, bucal and nasal cavities, and upon the genital organs in both sexes. They are frequently seen on the sides and dorsum of the tongue, which is deprived of its papillary layer and presents a smooth, polished surface at the points affected

2. The second variety of mucous ulcers commences on the surface and penetrates through the mucous membrane, forming an excavated ulcer, with abrupt and sharply cut edges. Its floor is covered with a dull grayish exudation of a diptheritic character, and the secretion is purulent. This ulcer belongs to a later stage of constitutional infection than the superficial erosion, and is analogous to the deep form of ecthyma. It is in anemic patients that it is most commonly met with, and, therefore, its course is usually

sluggish, and it has a great tendency to spread. The tonsils are most frequently attacked by it, and are often entirely destroyed, the surrounding parts are red and swollen, and it renders deglutition difficult and painful.

3. The third variety of the syphilitic mucous ulcers is produced by the suppuration of syphilitic tubercles or gummy tumors of the submucous cellular tissues. Like the tubercle or gummy tumor from which it develops, it belongs to the later stages of syphilis, and is much more frequently met with in persons who have taken mercury as an anti-syphilitic, than in those who have undergone the non-mercurial treatment.

The neighborhood of the fauces is often the seat of tubercles, the earlier symptoms of which are slight pain in deglutition, indistinctness of speech, swelling and redness of the surface over the tubercle. The patient, however, rarely consults a physician till suppuration has taken place and an ulcer has formed. This ulcer presents an irregular border, is covered by a yellowish-gray secretion, assumes a phagedenic appearance, and is so destructive in its character that even the osseous tissues do not limit its ravages. When the tubercle is situated in the cellular tissue of the soft palate, the resulting ulceration opens a communication between the posterior nares and mouth, and often completely destroys the uvula; and when located in the walls of the pharynx, the ulceration may often destroy the pillars of the fauces and tonsils, involve the posterior nares, Eustachian tube, middle ear, the base of the tongue, œsophagus, epiglottis and larynx. In such cases the breath becomes fetid, speech and deglutition are interfered with, deafness sometimes ensues, and the cervical vertebræ, palatine and maxillary bones may be attacked by caries and necrosis. In favorable cases the edges of the ulcer decrease in thickness, the surface clears off, and healthy granulations spring up to repair the breach.

In the majority of cases, however, the vitality of the patient, which was reduced at first, becomes very low, great emaciation and hectic fever set in, and death is sure to follow.

In the later stages of constitutional syphilis tubercles sometimes appear beneath the mucous membrane, or in the substance of the tongue, particularly in anemic patients, which suppurate and give rise to phagedenic ulcers. In some cases these tubercles are superficial, and correspond to tubercles of the integument and cellular tissue, while in others they involve the deeper portions of the tongue and correspond to the gummy tumors of the muscles and tendons. At first the base of the tongue is generally attacked, but as soon as the ulcers are developed, an entire or partial destruction of the organ may take place in a short time.

These tubercles of the tongue range in size from a buckshot to a small nut, and may occur singly or multiple. They are rounded or irregular in shape, grayish in color till suppuration takes place, when they assume a yellowish appearance. They are at first hard, but gradually soften till ulcers are formed. The ulcers are generally oblong in shape, of variable depth, are surrounded by irregular and abrupt margins, their floors present a grayish color, there is no diptheritic secretion, and sometimes small gangrenous patches are scattered over the floor. Though at first indurated, the bases of the ulcers become soft, and blood frequently starts from the entire surface.

In some cases these tubercles are so small that they can only be felt by grasping the tongue between the fingers. In other cases again, the tongue becomes so swollen as to be bitten by the teeth and to protrude from the mouth. The flow of saliva in these cases is often constant and copious, and sometimes the patient cannot swallow, speak, or even breathe, without much difficulty or pain.

Treatment.—The treatment of syphilitic affections of the mouth and throat may be divided into constitutional and local. For the constitutional treatment the reader is referred to the chapter on the treatment of constitutional syphilis. The object of local treatment is to hasten cicatrization of ulcerated parts, and this is best done in many cases by applying caustic. Nitric acid or carbolic acid may be used with advantage, but care should be taken in making the applications that the acid be not allowed to come in contact with the surrounding healthy tissue. The ulcer should be thoroughly dried, and then a pine stick should be used to make the application. The pine stick absorbes a considerable quantity of the acid and it is not apt to drop from it. After one or two applications of the caustic some mild astringent may be used with advantage. In cases where there is severe inflammation and swelling of the fauces, caustics should not be used, at least till the inflammation subsides.

I have seen good results follow the use of Kennedy's extract of pinus canadensis in the treatment of ulcers of the mouth and throat. I apply its full strength to the ulcer by means of a small brush, twice a day, for three or four days, and then I continue it in the form of a wash to be used three times a day. The following is the formula for the wash:

℞ Kennedy's extract of pinus canadensis.. ℥ ss.
Glycerine..... ℥ iii.
Water..... ℥i. M.

Tannin is a valuable agent in all cases where there is much inflammation and swelling of the fauces, and where the accompanying pain is severe, opium should be used in conjunction with it. The following is a convenient form:

℞ Acid. Tannici..... ℥i
Morphiæ ..... gr. vi
Glycerinæ..... ℥ ii M.

Sig. Apply to the fauces with a camel's hair brush two or three times a day.

If the inflammation extend so far that all the parts affected cannot be reached with a brush or probang, a steam atomizer should be used. A solution of nitrate of silver, one grain to the ounce of water, may be used in the atomizer, two or three times a day, but care should be taken to instruct the patient not to take long inspirations and thus avoid drawing the atomized fluids into the lungs.

After the acute inflammation has subsided astringent and tonic gargles of various kinds may be used with benefit. Chlorate of potash, borax, honey, tincture of iron, carbolic acid, and hydrastin are some of the remedies used in gargles.

It will be found of great advantage to lay open with a knife all tubercles of the mouth and throat as soon as suppuration has taken place. When this is done the suppurating surface should be freely cauterized with carbolic acid. This course often cuts short the disease by preventing the formation of ulcers and hastening resolution in the inflamed parts.

SYPHILITIC AFFECTIONS OF NASAL PASSAGES.—Patients suffering from constitutional syphilis often experience a feeling of obstruction in the nasal passages, attended with a muco-purulent secretion resembling ordinary catarrh. In such cases an examination will reveal the presence of erythema or superficial ulceration of the pituitary membrane, and the symptoms developed will prove more persistent than those of catarrh.

In the nasal cavity, as in the buccal, the ulcers may be superficial or they may result from the suppuration of tubercles and gradually involve the cartilages and bones of the nose. In the superficial ulcers the surrounding mucous membrane is swollen, the alæ nasi are tender on pressure, and plugs of inspissated mucus,

mixed with blood and pus, are discharged from time to time. The deeper ulcers appear at a more advanced stage of syphilis, and their development is characterized by a dryness and obstruction of the nasal passages, which is soon followed by suppuration and a fetid discharge of bloody pus and mucus, hard and dark colored scales and fragments of necrosed bone. The sense of smell is generally destroyed, the nose becomes flattened, breathing is carried on through the mouth, and the voice assumes a nasal twang.

The early affections of the nasal cavities yield readily to the general treatment of syphilis, but a cure may be hastened by touching the ulcers that are within reach with caustic, and afterward using a solution of carbolic acid, six grains to the ounce of water, as an injection through the posterior nares. In the deeper ulcers the anemic condition of the patient must be improved by general treatment and injections of weak solutions of carbolic acid, chloride of zinc, or permanganate of potash must be freely and persistently used in the anterior and posterior nares.

SYPHILITIC AFFECTIONS OF THE LARYNX AND TRACHEA.—The air-passages are affected in the later periods of constitutional syphilis by the development of ulcers on the mucous membrane, and inflammation of the cartilages followed by suppuration.

Syphilitic Laryngitis.—Syphilitic Laryngitis comes on late and is always preceded by other syphilitic symptoms, the most common of which is ulceration of the fauces. Sometimes this affection consists of an ulceration of the mucous membrane, which may originate in the larynx or may extend from an ulcerated pharynx; or it may be confined to an inflammation of the perichondrium surrounding the cartilages of the larynx. When ulceration of the mucous membrane occurs it may extend over the internal surface of the epyglottis and the entire mucous lining of the

larynx. Inflammation of the surrounding perichondrium frequently attends ulceration of the mucous membrane, but also occurs alone. When this inflammation occurs without mucous ulcers, abscesses often form within the perichondrium which denude and destroy the cartilages. Such abscesses cause a considerable enlargement of the throat which is visible externally.

The early symptoms of this disease are difficult respiration, slight pain in the region of the larynx, a husky voice, and the presence of purulent matter, mixed with blood and small sloughs, in the expectorations hawked up by the patient. At a later period the patient can only speak in a whisper, or the voice is entirely lost, the larynx is considerably enlarged, great emaciation takes place and the patient often dies from exhaustion or asphyxia. The diagnosis between this disease and laryngeal phthisis is often difficult, and we must rely mainly on the previous history of the case to determine it.

Syphilitic ulcerations of the larynx may extend so as to involve the trachea and even the bronchial tubes, but these affections are fortunately rare.

Some writers claim to have met with aphonia sufficiently often in the early syphilitic affections to entitle it to a separate consideration, under the name of syphilitic *aphonia*. It is said to be unattended by any well-marked symptoms aside from the loss of voice. It generally shows itself early in constitutional syphilis, and passes off in a few days under the influence of the anti-syphilitic treatment.

Treatment of Ulcerations of the Air-Passages.—The prognosis of these affections is usually very unfavorable. Occurring, as they do, in patients who are very much debilitated, the treatment should consist largely in nourishing diet and general tonics. Alteratives should be avoided till the general health of the patient

be improved. Inhalations of nitrate of silver, one grain to the ounce of water, may be used with the steam atomizer with good results. Fortunately, these affections are rarely met with at the present day, if the early symptoms of syphilis have been promptly treated.

MUCOUS PATCHES.—There is a variety of syphilitic eruption, the surface of which resembles a mucous membrane, which is generally located on the mucous membrane of the mouth, or in the neighborhood of the outlets of mucous canals, to which the name *mucous patches* has been applied. These patches are rounded in form, slightly elevated above the surrounding surface, and are rose-colored.

I place them under the head of syphilitic affections of the mucous membranes, because they are most commonly met with on mucous surfaces or at the outlets of mucous canals, though they are also found on such portions of the skin as are kept in a state of constant warmth and moisture by contact of two cutaneous surfaces.

Around the anus and in the mouth are the most frequent locations of mucous patches in men, while in women they are most frequently found in the vulva. In the male they are also met with on the scrotum, lips, glans penis and prepuce, between the toes, between scrotum and thigh, in axillæ, at orifices of nose, and at the bases of the toenails; while, in the female, they occur around the anus, perineum, nates, buccal cavity, nails, between the toes, and in the groin and axillæ. The frequency of their occurrence in the different locations is in the order in which they are mentioned above.

Those patches which are situated on the external integument are rounded, elevated slightly above the surrounding integument, present a granulated appearance, are of a reddish or grayish color, and may

occur singly or in aggregated groups. In their development a red spot first appears, and a slight effusion beneath the epidermis takes place. The epidermis falls off, the surface thus exposed assumes a moist grayish appearance, and the superficial layer of skin becomes hypertrophied, thus giving rise to the disk-like appearance before mentioned. When exposed to friction these patches readily become ulcerated, and, in this way, extensive superficial ulceration is often produced on the perineum and scrotum. Severe pruritus is also frequently met with in this form of syphilitic eruption.

Within the cavity of the mouth mucous patches are of a grayish white color, are irregular in shape, and not usually elevated above the surrounding surface. They are most frequently located upon the inner surfaces of the lips and cheeks, on the sides of the tongue, upon the gums, tonsils and soft palate. They may become the seat of extensive ulceration, particularly when located on the tonsils, in which case they take on the appearances described under the head of ulcers of the mucous membranes.

Mucous patches are developed in the early stages of general syphilis, and may often be traced to uncleanliness on the part of the patient. After once being developed, however, they may remain for a long time without disappearing, or may terminate in ulceration.

Treatment.—In addition to the general treatment recommended for constitutional syphilis, local applications are often of great benefit. Cleanliness must be insisted upon under all circumstances. When the patches are located on the external integument, pruritus may be prevented by separating the contiguous surfaces with lint, saturated in a solution of carbonate of soda. Where there is a slight tendency to ulceration over a large surface, an application of mild zinc ointment, for a few days, will produce a healthy sur-

face which will soon heal over. If there be much inflammation in the part, warm emolient poultices should be used till it subside; and if the ulceration be extensive, the antiseptic treatment heretofore described will be the most satisfactory in its results.

The mucous patches of the mouth should be destroyed with caustic, and afterwards treated the same as ulcers of the mucous membranes. I have found the sesquicarbonate of potash a valuable caustic in these cases. It should be applied to the patches once a day, for two or three days, care being taken to confine its application to the parts affected.

CHAPTER XI.

SYPHILITIC AFFECTIONS OF THE EYES.

SYPHILITIC IRITIS.—Syphilitic iritis is more frequently met with than any other syphilitic affection of the eye. It sometimes shows itself as an early symptom of constitutional syphilis, but is more frequently one of the later affections. It is very difficult to diagnose between syphilitic iritis and an iritis dependent upon other causes; but when we remember that the majority of cases of iritis are due to syphilitic taint, and when we inquire carefully into the history of the case and observe the attending symptoms, the probable origin of the disease becomes apparent.

Sometimes an inflammation of the iris is the first general symptom to which the attention of the patient is called, but a careful examination will show that cutaneous or mucous eruptions had previously manifested themselves. This early appearance of iritis occurs about six months after contagion, when uninfluenced by treatment, and the following are the prominent symptoms that present themselves: The vessels of the conjunctiva and sclerotic coat are injected near the cornea, thus giving a red appearance to a small circle around the cornea, while, beyond this, the white of the eye remains clear; the iris loses its natural brilliancy, its minute texture becomes less apparent, its surface is covered with a thin layer of

fibres, and its color changes; the iris becomes sluggish in its movements or remains entirely insensible to light; the pupil assumes a dull appearance, owing to changes in the anterior capsule of the lens; adhesions between the inner margin of the iris and capsule may take place, thus making the outline of the pupil irregular, particularly when dilated by belladonna; and, at a later stage of the disease, yellowish or brownish elevations sometimes appear upon the surface of the iris, which gradually increase in size, so as to cause a projection of the cornea or sclerotica in some cases. Pain aud photophobia are present from the first, but in a much less degree than in other forms of iritis. There is also a dimness of vision, in a majority of cases, due, no doubt, to the changes in the capsule of the lens and the deeper structures of the eye. While these symptoms may point to syphilitic iritis, yet to be fully satisfied we must establish the coexistence of general syphilis by the previous history of the case. In all cases of iritis the physician should examine the mouth, throat, arms, chest, and abdomen, and should he discover any traces of syphilitic eruptions, his diagnosis can be easily made.

When iritis occurs in the later stages of syphilis, there is almost a complete absence of pain or photophobia; the iris becomes infiltrated, covered with lymph, and presents a swollen and velvety appearance; numerous adhesions between the pupillary margin and the capsule of the lens take place; and effusions of lymph block up the irregular outline of the pupil. Both eyes are attacked in succession, and the sight is often entirely destroyed by the obstruction of the pupils. The disease is very insidious and persistent, and is with difficulty controlled by treatment.

Treatment.—Mercury has long been considered the only remedy that could be used with the least success in the treatment of syphilitic iritis, even by those who

have discarded it in every other form of syphilis. Experiences are not wanting, however, to prove that the early or acute form of syphilitic iritis, if taken in time, can be successfully treated without the use of mercury.

The general health of patients suffering from syphilitic iritis is always below the normal standard, and, consequently, tonics should be freely given from the start. As soon as the system is somewhat strengthened, large doses of iodide of potassium may be given for a week at a time, and then alternated with tonics. If the pain be severe and the patient unable to obtain sleep, from twenty to thirty grains of hydrate of chloral should be given at bed time.

It is very important that the pupil should be kept fully dilated, as, in this way, adhesions or closure of the pupil with lymph is prevented. For this purpose a solution of atropine, two grains to the ounce of water, is the best agent that can be used. Of this two or three drops may be poured into the eye two or three times a day. If adhesions have already formed, it may be used more frequently till the pupil gradually dilates and breaks up the adhesions.

Poultices of all kinds should be avoided, and the eye should never be tied up closely. A green shade or veil may be used for a protection against strong light. The patient should only be confined to the house in cold, unfavorable weather, and the room should never be entirely darkened. Good, nourishing diet should always be given, and attention should be paid to the digestive organs.

Under this treatment the iris often resumes its normal color and mobility, and the eye is entirely restored; but in patients who have been greatly reduced in health the changes which take place are usually permanent.

In the later or chronic form of a syphilitic iritis the constitution is often so enfeebled that treatment rarely

arrests the disease till a permanent loss of sight is effected. The same general treatment, as above mentioned, should, however, be persisted in till the disease appears to be arrested, and then an operation for artificial pupil may be performed, to enable the patient to regain his sight, at least in part.

RETINITIS AND CHOROIDITIS.—Inflammations of the retina and choroid are occasionally met with as results of general syphilis. The symptoms do not differ from those of the same affections dependent upon other causes. The symptoms, in most cases, are: the appearance of a fog or mist before the sight, with a sense of fullness of the globe, and frontal headache or hemicrania; the photophobia is slight, and obstruction of vision increases till the patient can only distinguish between light and darkness, or entire blindness ensues. These symptoms are present in both retinitis and choroiditis, so that to distinguish between the two resort must be had to the use of the opthalmoscope. In retinitis this instrument reveals an increased redness of the retina, an abnormally injected condition of the arteries and veins which emerge from the optic disk, a foggy appearance of the fundus of the eye, caused by effusion into the substance of the retina, and sometimes ecchymosed patches, resulting from rupture of some of the injected vessels. In choroiditis the opthalmoscope reveals a thinned or atrophied condition of the choroid coat in spots, which presents a mottled appearance; or the atrophy of the choroid may be so general as to give the fundus of the eye a white appearance, and thus an unusual amount of light is reflected in the interior of the eye. Sometimes we discover with the opthalmoscope a semi-transparent bleb encroaching on the vitreous, which is caused by an exudation from the choroidal vessels, being thrown out between the choroid and retina. These appearances, and the symptoms previously mentioned, when

met with in conjunction with general spphilitic symptoms, point to the existence of changes in the deep structures of the eye, even though no symptoms of external inflammation be present.

Treatment.—The general anti-syphilitic treatment should be resorted to early, and the patient instructed to give the eyes absolute rest. In some cases the symptoms yield readily to treatment, while in others they go on till total loss of sight results.

SYPHILITIC AMAUROSIS.—A gradual loss of sight sometimes follows constitutional syphilis, and the use of the opthalmoscope can reveal nothing but an occasional atrophied condition of the optic nerve. The prognosis in such cases is very unfavorable, and little or no effect need be expected from treatment. Fortunately these cases are rare.

CHAPTER XII.

TERTIARY SYPHILITIC AFFECTIONS.

Syphilitic affections of the testicles, muscles, tendons, nervous system, periosteum and bones, and a variety of tumor generally described as gummy tumor, are usually spoken of as the tertiary symptoms of syphilis. They all manifest themselves at a late period after contagion, and are never met with except in patients whose general health has been very much reduced. Fortunately none of these affections are common at the present day, as the nourishing and supporting treatment sustains the vital energies, and thus prevents these symptoms from development.

When the mercurial treatment of syphilis was universally employed, tertiary symptoms were invariably developed, and in the cases that we occasionally meet with at present we find that the patients have undergone a long-continued course of mercurial treatment. In speaking on this subject, Prof. Bennett says: "It is now well known that the poison of mercury produces a cachectic disease and secondary sores in the body, which have been, to a great extent, mistaken for those of syphilis. It consequently has happened that mercury, given to cure primary sores, has produced a constitutional disorder closely resembling that of syphilis; more mercury has then been administered, increasing the mischief, and so the dis-

ease has been perpetuated. * * * The intensity of the disease in modern times has declined exactly in proportion as its treatment by mercury has diminished." If mercury do not itself produce a disease, it does certainly so deplete the system as to allow the syphilitic poison to make greater ravages upon the various tissues than it possibly could make if the vital powers were sustained.

A brief consideration of these later affections is rendered necessary, as they are, even now, occasionally met with in anemic persons.

SYPHILITIC ORCHITIS.—Syphilitic orchitis is rarely met with until two or three years after contagion, though in cachectic patients it may occasionally occur as early as the sixth or seventh month after the primary sore. It is always attended with other later manifestations in the fauces, periosteum and bones. It usually attacks both testicles, either simultaneously or consecutively; pain is almost entirely absent, and there is an insensibility to even severe pressure; there is a feeling of weight in the affected organ, and, in rare cases, a dull pain about the loins; the scrotum, vas deferens, and epididymis remain entirely unchanged; and the body of the testicle, which is the part affected, is increased in size, but rarely more than to twice its diameter. In most cases a slight effusion of serum takes place into the tunica vaginalis, but this is not sufficient to require any special interference. Early in the disease distinct masses of induration may be felt by grasping the testicle, and these may form slight projections upon the surface of the organ, but they do not change its general contour. As the disease progresses the indurated masses coalesce and form a hard, unyielding tumor, which retains the shape of the testicle.

The course of syphilitic orchitis is very slow, and often lasts for several years. At an early period the

disease may be arrested and the normal condition of the testicle restored; but if neglected, the seminiferous tubes become obliterated. Suppuration rarely takes place, and, when it does, it generally commences in the surrounding tissues, and from these extends to the testicle.

There are other affections of the testes with which syphilitic orchitis may be confounded, but a little care will always enable us to arrive at a correct diagnosis. Gonorrhœal inflammation of the testicle is an acute disease, and presents all the symptoms of acute inflammation; it chiefly attacks the epididymis; often involves the vas deferens; a discharge from the urethra always precedes or accompanies it; and the induration following is confined to the epididymis. In cancer of the testicle a slight pain is present at first, which soon becomes very severe and of a lancinating character; the shape of the tumor is very irregular, it grows rapidly, and attains a very large size; and the cord is generally involved. Tubercular disease of the organ develops at the age of puberty; the deposits take place in the epididymis, or in the centre of the testicle; and the tubercles that develop on the surface soon form adhesions and cause a suppuration, and ulceration of the tunica vaginalis and scrotum takes place. These conditions are so unlike the symptoms of syphilitic orchitis that an error in diagnosis is hardly possible to any one in the least familiar with diseases of the testes.

Treatment.—The general treatment recommended for constitutional syphilis is always essential in syphilitic orchitis, and should be persisted in till the general health of the patient be fully restored.

The testicle should be supported by means of a suspensory bandage, and even pressure should be applied to it by means of strips of adhesive plaster. The slight hydrocele that is often present soon disappears under general treatment, but should it be exces-

sive, it may be evacuated by an incision through the scrotum deep enough to penetrate the tunica vaginalis. Local washes and ointments are of no value, and should not be used.

GUMMY TUMORS.—Gummy tumors are small tumors developed in the cellular tissue beneath the skin and mucous membranes, and in the muscles, tendons, viscera, testicles, and other organs of the body. They are classed among the later manifestations of syphilis, and after appearing as small tumors, they slowly progress to suppuration and ulceration.

In the cellular tissue these tumors first appear beneath the skin or mucous membrane as hard, movable lumps, unattended with pain or inflammation for a considerable period. In time they become soft, tender on pressure, adhered to the integument or mucous membrane, and suppurate at the centre, while the tissues covering them assume a livid color, ulcerate and allow the escape of saneous pus. Ulceration now continues and produces deep and extensive ulcers. They generally occur singly, although one may succeed another for a long period. They may appear on all external parts of the body, and vary in size from a small nut to a hen's egg.

They occur in the tendons and muscles, where they sometimes terminate in suppuration, and sometimes become indurated, and even ossified. Their appearance in the tongue has already been mentioned in connection with tubercles of the tongue.

Treatment.—Iodide of potassium, alternated with tonics, is the best general treatment for this affection. The tumors should be freely opened as soon as fluctuation can be detected, and, where it is admissible, the antiseptic treatment should be resorted to and continued till the part entirely heals.

SYPHILITIC AFFECTIONS OF THE NERVOUS SYSTEM.—Such affections as paralysis, apoplexy, epilepsy,

neuralgia, and various forms of mental derangement, are often attributed to the presence of syphilitic symptoms in the patient. There are, however, no general symptoms manifested in these cases by which we are enabled to detect their syphilitic origin, and, therefore, we must arrive at our diagnosis by the history of the case, the accompanying symptoms, and the effect of treatment. If a patient, suffering from any of these nervous affections, has had syphilis, and we detect caries, necrosis, or exostosis of the bones of the skull, or vertebræ, we may reasonably infer that the nerve centres are in some way involved; and if these lesions exist in the bones of the face, the nerve trunks are liable to be affected. Now, with such lesions existing in conjunction with nervous affections, we would not be amiss in saying that the nervous affection was produced by the syphilitic disease. Gummy tumors sometimes spring from the dura mater, or develop along the course of the cranial nerves, and by their mechanical pressure on the parts surrounding them, they may produce nervous derangements.

Indeed, I am inclined to the opinion that when nervous affections are due to syphilis, they always result from some pressure or local irritation produced by syphilitic lesions in neighboring parts, and not from any syphilitic lesion of the substances of the brain, spinal cord or nerves. When mental derangement, paralysis, or apoplexy, occurs in syphilitic subjects, post-mortem examinations often fail to find any evidence of syphilitic lesions in the brain, spinal cord, membranes or nerves. This being so, it is reasonable to suppose that the nervous affection was due to some other cause.

When we have good reason to suspect, after carefully examining a case, that the affection of the nervous system is due to syphilis, the patient should at once be placed on the general anti-syphilitic treat-

ment. This treatment should be continued for at least six months or a year. In many cases a marked improvement will take place after a few weeks, but in others little, if any change can be observed even at the end of the year. The prognosis, in severe cases, is always unfavorable.

SYPHILITIC AFFECTIONS OF THE PERIOSTEUM AND BONES.—Affections of the periosteum and bones are among the latest syphilitic manifestations, and are only found in patients who are greatly debilitated, and in those who have been subjected to long-continued mercurial treatment. These affections rarely, if ever, appear before the sixth month after contagion, and, in some cases, several years may elapse before they are fully developed. Pains in the bones, periostitis, ostitis, and caries and necrosis are the affections usually met with, and each will receive a passing notice.

Pains in the Bones.—Continued pains in the bones of a syphilitic subject, after the secondary symptoms have disappeared, are symptomatic of commencing change in the bones and periosteum. These pains are most commonly felt in the bones that are the most superficial, as the tibia, ulna, cranium and sternum, but they occur in all the bones of the body. The pain is of a dull, heavy character, and it generally increases toward night, owing, no doubt, to the fatigue of the day. If the pain be increased by pressure, it indicates that the changes are taking place in the periosteum or the subjacent bony texture; but if the pain be uninfluenced by pressure, it is evidence that the changes are taking place in the deep structure of the bone, and a considerable time will elapse before ostitis or caries occurs.

The general health of the patient must be sustained by good diet and tonics, and alteratives should be freely given. In these cases iodoform is one of

our most effective agents, as it possesses anodyne as well as alterative properties. It should be given in pill form, one grain three times a day, and continued for some weeks after the pains have entirely disappeared.

Periostitis and Ostitis.—Inflammation of the periosteum rarely occurs without involving the superficial portion of the subjacent bone, and when an inflammation of the bone takes place, the periosteum, in its turn, becomes involved sooner or later. The symptoms of syphilitic inflammation of these textures do not differ from those met with in a non-specific inflammation, nor do the results that follow the inflammation. Sometimes the inflammation is so severe as to lead to suppuration and ulceration of the bony texture, while, at other times, the tendency may be to an excessive deposition of plastic lymph. In the first instance, caries or necrosis follows; in the latter little bony tumors are formed.

The plastic lymph, poured out as the result of inflammation, becomes partly organized, and produces little nodes which are adherent to the osseous tissue beneath. They are, at first, tender on pressure and give rise to severe pains, especially at night. In some cases a new inflammation commences in the node, which soon involves the integument covering it. Suppuration takes place in the node, and the pus finds an exit through ulceration of the integument, and the bone is thus left exposed. In other cases, again, the organization of the plastic lymph goes on till a hard, bony tumor or exostosis is formed, which remains as a permanent projection from the surface of the bone.

The treatment previously given for general syphilis should be persistently continued, giving the preference to iodoform as an alterative. Where evidences of suppuration are present, a free incision should be made down to the bone and the wound afterward

treated antiseptically. No attempt should be made to remove the exostosis, unless it is situated so as to interfere with the use of a limb.

Caries and Necrosis.—Syphilitic caries and necrosis may attack any of the bones in the skeleton, though they most frequently appear in the shafts of the long bones that are situated superficially, and the bones of the cranium. As has just been stated, suppurative inflammation of osseous tissue may give rise to caries and necrosis, as may also suppuration and opening of nodes. Again, ulceration of the soft parts may take place, and the ulcerative process may extend to the periosteum and bone, and thus give rise to caries and necrosis. In determining the character of these affections, it is necessary to inquire into the history of the case, which is always so plain as to render the diagnosis of syphilitic caries and necrosis very easy.

As general debility is invariably present when these conditions of the bones are developed, tonics and hygienic remedies are of the greatest importance in their treatment, and alteratives should be given as the patient can stand them. The pieces of bone should be removed as fast as they become detached, and as soon as the patient is strong enough to bear an operation, every particle of cariesed and necrosed bone should be removed, and the part afterward treated antiseptically.

CHAPTER XIII.

GONORRHŒA.

The term gonorrhœa was long applied to an affection of the mucous membranes lining the genital organs in the two sexes, which was characterized by a copious discharge from the diseased surface. The name is derived from two Greek words which signify a *flow of semen*, and was applied to this disease because it was supposed that the discharge was merely an increase of the natural flow of the spermatic fluid. Although that supposition has long been known to be incorrect, the term gonorrhœa is still used, both in England and America, to designate all affections of the mucous membranes of the genital organs, which are attended by increased secretions and discharges of muco, or muco-purulent matter.

It is admitted by all writers that the affection known as gonorrhœa has its origin in sexual intercourse, but many different opinions are held regarding the immediate causes and nature of the disease.

Some claim that there exists a distinct venereal poison which always produces gonorrhœa, when brought in contact with the mucous surfaces of the genital organs. Others claim that the syphilitic virus undergoes changes, by mixture with natural secretions and products of inflammation, to such an extent that much of its virulence is destroyed, and, when in

this condition, it excites inflammation of a specific character without producing any open sore. Nearly all, however, agree that a urethral discharge cannot take place without being excited by the contact of some venereal poison.

All careful observers of this disease, however, have had sufficient evidence from their own experience to prove that urethral discharges frequently occur from sexual intercourse during or immediately after the menstrual flow, even though no trace of any disease could be found in the female. Leucorrhœal discharges in the female are also known to frequently give rise to urethral discharges. In fact, I am of the opinion that by far the greater number of cases of so called gonorrhœa are due to the influence of vaginal secretions of a non-specific character. In proof of this we have only to refer to the fact that the majority of these cases only present slight inflammatory symptoms which soon subside and terminate in a spontaneous cure.

It is to be regretted that the profession still adheres to the name given to this affection when its nature was entirely misunderstood. The term gonorrhœa neither expresses the nature of the disease nor the character of the discharge, and should, therefore, be abandoned for some more appropriate nomenclature. As this disease is an inflammation of the mucous membrane, its character could be easily expressed by appropriate terms. If the symptoms were those of a simple inflammation, resulting from the action of a non-specific secretion, we might use the term *simple urethritis* to designate the character of the disease in the male. If there were evidences of the existence of a specific poison, the resulting disease might be named *specific* or *muco-purulent urethritis*. In this way we would not only designate the seat of the inflammation, but also its character and the character of the discharge.

It may be urged as an objection to the use of these terms, that we cannot apply them to the same disease in the female. This is true, but it must be remembered that the disease in the female has a different location, and presents a chain of symptoms so distinct from those met with in the male, that writers are obliged to consider the disease in the female under a distinct head. This being the case, I cannot see why we should not use a name which would convey to our minds something approaching a correct idea of the disease.

The vagina is often the seat of a simple inflammation, which we now designate as simple vaginitis, and sometimes, from ulceration of the cirvix uteri and other causes, this inflammation is attended with a muco-purulent discharge, when we call it muco-purulent vaginitis. Now, how natural it would be to designate as *specific vaginitis* an inflammation produced by the contact of a specific poison.

If these terms were adopted, we would find them much more comprehensive and more in harmony with the names applied to inflammations of other textures, while students would not be confounded by the unfitness of names.

URETHRITIS.—The disease generally known as gonorrhœa in the male is an inflammation of the urethra, and it may be slight or severe in proportion to the amount of irritation produced by the virus giving rise to it. The difference in the symptoms of simple and specific urethritis is one of degree and not of kind, and they may, with propriety, be described under one general head.

Symptoms.—The symptoms of urethritis usually begin to appear between the second and fifth day after exposure to the exciting cause. The first symptom is an uneasy or tickling sensation just within the lips of the meatus, which soon extends for about half

an inch up the urethra. If the lips of the meatus be separated and the mouth of the canal examined, the surface will present an unnatural florid appearance, and will be covered by a colorless viscid fluid. The quality of this fluid is quite small at first, but is sufficient to glue together the lips of the meatus. The patient next feels a smarting or burning sensation around the meatus and in the anterior part of the urethra during micturition. Now the quantity of fluid increases as the inflammation goes on, till a drop or more escapes from the meatus at a time; the fluid assumes a milky appearance, and it is found, under the microscope, to consist of mucus and pus globules. These symptoms are always confined, at first, to the mouth of the urethral canal, which is alone exposed to contagion, and may be described as the first or preparatory stage of urethritis.

Three or four days may elapse before the intensity of these symptoms is increased, but during this time what was first a simple irritation is gradually developed into an active inflammation, which, by the continuity of tissue, is extended some distance back into the urethra. The glans penis often becomes swollen; the mucous membrane covering it assumes a reddened and angry appearance; the lips of the meatus are greatly inflamed and swollen so as to diminish the calibre of the orifice; in some cases extensive œdema into the cellular tissue of the prepuce takes place, which may give rise to phymosis or paraphymosis; the under surface of the penis is tender and very sensitive on pressure; and a thick and copious discharge, of a yellowish cream color, not unfrequently tinged with green, on account of the admixture of blood-corpuscles, is discharged from the meatus. These symptoms constitute what is called the secondary or inflammatory stage of urethritis.

During the continuance of the second stage, the patient suffers very severely while passing his urine.

The pain, which is of a severe burning or scalding character, now extends backward a considerable distance along the urethral canal, and is caused partly by the distension of the inflamed and sensitive canal by the stream of urine, and partly by the irritation of the sensitive mucous membrane by the urinary salts.

Painful nocturnal erections frequently occur in the second stage of the disease, and occasion the patient much suffering. On account of the severity of the inflammation of the penis, the vascular structure of the genital organs becomes distended with blood, which leaves the organs in a highly sensitive condition. The warmth of the bed, lascivious dreams, slight friction of the bedclothes, or other causes, now readily excite the organs to a state of erection, when the penis will be bent like an arc with the concavity downward. This condition is due to the inflammation of the urethra, which runs along the under surface of the penis. Plastic lymph is thrown out around the urethra as the result of the inflammation, and, as it becomes partially organized, the tissues are glued together so as to destroy, to a considerable degree, the extensibility of this portion of the penis. Now, when an erection takes place, the corpora cavernosa is fully distended, while the corpus spongiosum remains unyielding and acts like the string of a bow in bending the penis downward. The parts that have been glued together by the plastic lymph are thus put on a stretch, and the mucous membrane of the urethra is often lacerated to such an extent as to occasion considerable hemorrhage from the canal. It is the stretching of this part of the penis that occasions the pain, which is often so severe as to compel the patient to grasp the penis and bend it still more, so as to remove the tension of the under surface. The French applied the name chordeé to these painful erections, and the name has been adopted in all English writings.

Sympathetic enlargements of the glands of the groin are also met with in the second stage of urethritis. These enlargements are described as sympathetic buboes, and are easily recognized by the enlargement of one or more of the glands in the groin, attended with pain and uneasiness upon the slightest motion of the leg. They generally disappear in a few days, if the patient be kept quiet, but may suppurate if subjected to any severe local injury, or if the patient be greatly reduced or debilitated from any cause.

The duration of the second stage of urethritis is very variable. In a person whose general health is unimpaired it lasts a week or ten days, but it may run along for three or four weeks, or even longer, if aggravated by improper treatment. It is followed by the third or last stage of the disease. This stage is marked by a gradual disappearance of acute symptoms and a diminution in the quantity and purulence of the discharge. The pain on passing urine is greatly diminished or entirely disappears, the swelling of the glans penis and prepuce subsides, and there is a gradual return of the parts to a condition of health. Chordeé, however, may continue for some time after the inflammatory symptoms have subsided, as some time must necessarily elapse before the organized plastic lymph can be absorbed. The duration of this stage also varies. If left to itself, a spontaneous cure sometimes takes place in a few weeks, while other cases again may last for months, unless cut short by treatment.

Urethritis sometimes gives rise to a general febrile disturbance during the acute stage, but this soon subsides. In some cases we find fully developed secondary syphilis, where the most careful examinations have failed to reveal the presence of concealed chancre. When the disease has continued for some time, there is, in many cases, a tendency to a general de-

bility of the patient. All these circumstances must be taken into consideration in the treatment of the disease.

Causes of Urethritis.—It is generally supposed that urethritis can only proceed from intercourse with a woman affected with a specific vaginitis; but every physician of experience can testify that such is not the case. Coitus just before, during, or immediately after the menstrual period, is frequently followed by urethritis when there is no abnormal condition of the female genital organs. In such cases the inflammation is often as severe as though we had positive proof of the existence of a specific poison to produce it. The leucorrhœal discharges from the uterus and vagina are frequently of an irritating character, and when brought in contact with the mucous surfaces of the meatus and orifice of the urethra they excite an active inflammation. Again, urethritis results from coitus with a woman afflicted with a specific vaginitis, or local venereal sore that has remained unhealed for a considerable length of time.

Upon the application of any of these exciting causes the mucous membrane first becomes irritated, and this irritation may continue long enough to awaken inflammation. The inflammation thus awakened presents no characteristic symptoms by which we are enabled to determine the nature of the secretion which gave rise to it. The acute symptoms, however, are sometimes more intense in cases originating from specific vaginitis than in those of a non-specific character.

It may often happen that the mucous membrane covering the lips of the meatus and the anterior part of the urethral canal has been slightly irritated by friction of the clothing, or during coitus; and, while in this condition, the non-specific secretions of the uterus or vagina increase the irritation, and thus produce an urethritis which might not have taken place

under other circumstances. Again, the parts may be in such a healthy condition as to escape contagion, even though exposed to the influence of some specific poison. In view of these facts, then, physicians should always be careful that they do not express opinions that might be used as evidence against the chastity of innocent women.

Nature of Urethritis.—As before stated, urethritis is an inflammation of the mucous membrane of the urethra, generally resulting from sexual intercourse. It is essentially a local disease, but may be attended with constitutional disturbance such as is met with in other severe inflammations. Whether resulting from the contact of a specific or non-specific poison, the muco-purulent secretion produced by it is capable of producing inflammation of other mucous surfaces with which it is brought in contact. When the inflammation is non-specific in character, however, it is not so liable to produce disease in others, and the inflammatory symptoms subside more rapidly.

In some cases of urethritis the disease is very persistent, and after a few weeks some of the symptoms of secondary syphilis begin to show themselves in different parts of the body. The most careful examination, during the different stages of the disease, fails to detect the existence of concealed urethral chancre, and we have positive assurance that the patient never had any kind of venereal sore, while all the symptoms are those of urethritis. When we meet with cases of this kind we will always find the patients' general health below the normal standard, and the only conclusion we can arrive at is that the urethral inflammation was produced by the contact of a syphilitic poison, which had been so modified by circumstances as to be incapable of producing a characteristic sore, but was still capable of producing constitutional syphilis in a debilitated patient.

The causes and nature of urethritis may be best

illustrated by the following cases, which bear directly on these points:

Case 1.—In 1867 a gentleman consulted me to be treated for urethritis. He had been away from home for three months; and five days after his return he noticed all the symptoms of a severe urethritis. He at once accused his wife of unchastity during his absence, and had even left his home preparatory to commencing an action for a divorce. I saw him two days after the discharge from the urethra appeared, and, after explaining the nature of the disease to him, it was arranged that I should call on his wife and make an examination, if she would consent. She gladly submitted to the examination, and I found the genital organs in a perfectly healthy condition. On inquiry I found that she was barely over her menstrual period when her husband returned; and, as she had never been in the habit of syringing the vagina after the menses, I was satisfied that in this lay the cause of all the trouble. I easily satisfied both parties in regard to it, and the urethritis soon disappeared under treatment.

Case 2.—A gentleman of high standing, and living for several years most happily with his wife, contracted urethritis on his return from a six months' trip to Europe. He consulted me immediately on noticing the symptoms of the disease, and bitterly complained of the unchastity of his wife. On inquiry, I learned that his wife had suffered from leucorrhœa for three or four years, and a subsequent examination proved that the vagina was perfectly healthy, but that a copious muco-purulent discharge was constantly exuding from the mouth of the womb. In this case the discharge from the womb had previously no effect on the husband, but after six months' abstinence the mucous membrane was easily irritated by coitus, and, coming in contact with the muco-purulent discharge, while thus irritated, the inflammation was awakened.

Case 3.—A——— H———, aged 24, called upon me in January, 1868, to be treated for urethritis. When I saw him the worst of the acute symptoms had subsided. I treated the case for about a week without noticing any improvement. I then introduced a No. 12 bougie into the urethra, which was very sensitive, but no obstruction of any kind could be detected. The patient was debilitated and suffered considerably from chordeé, which kept him from getting sufficient sleep.

In about seven weeks after the commencement of the disease, secondary syphilis manifested itself, and various forms of eruptions appeared in regular succession. The patient positively declared that he never had any syphilitic disease before, and that he never had intercourse with a woman but once in his life, and then he contracted the disease. I placed him on the treatment for syphilis, and he gradually improved. A few weeks later I treated another case of urethritis, which was contracted from the same woman as the one just mentioned. This case presented no symptoms other than those of urethritis, and yielded readily to treatment. I afterwards examined the woman from whom these two cases were contracted, and I found a chancre on the left labium minorum, which had been there for nearly three months, and there was no appearance of any other disease of any of the organs.

The foregoing cases are merely given to illustrate the fact that urethritis may be produced without the existence of a similar specific disease in the female, and the last mentioned is only one of a great many that might be given to prove that the specific gonorrhœal virus has a common origin with the virus that produces the various forms of chancre.

TREATMENT.—Much difference of opinion prevails, even at the present day, regarding the treatment of this disease. Some place great reliance in the inter-

nal administration of remedies which are supposed to have special affinities for the mucous membrane of the urinary organs, and resort to no other treatment; others use various kinds of injections in connection with the internal remedies; while others, again, depend entirely on injections of the urethra.

In my own practice I rely mainly on injections into the urethra, as I consider the disease a local inflammation. If, however, the patient be debilitated and the symptoms severe, I invariably resort to the free use of tonics, which are continued till all symptoms of the disease have disappeared; and should any syphilitic symptoms develop, I resort to the general treatment for syphilis previously described. In cases where the kidneys are affected through sympathy, so as to diminish the natural flow of urine, a diuretic may be given; and acidity or alcalinity of the urine should be corrected by proper remedies.

The local treatment of urethritis is divided into three stages, which correspond with the stages of the disease.

Treatment of the First Stage.—The treatment of the first stage of urethritis has generally been described as the abortive treatment of gonorrhœa, and has always consisted of powerful caustic injections. A solution of from ten to twenty grains of nitrate of silver has long been the favorite injection for aborting this disease. It is claimed that the artificial inflammation excited by this strong injection supplants the gradually developing morbid action, and then subsides in a few days. It is no doubt true that many cases of urethritis recover after such a course of treatment, but it is equally true that in many cases these strong injections only tend to aggravate all the symptoms and produce serious complications.

It is much better to adopt a mild and paliative treatment, as the results clearly prove. When the physician sees a case of urethritis in the first stage

he may often arrest it by the following treatment: Inject into the urethra a small quantity of cold water, immediately after each act of micturition, but never allow it to pass further back in the canal than an inch beyond the orifice. After each injection of cold water, use, in the same manner, an injection of permanganate of potash—seven grains to the ounce of water. If this treatment be continued for two or three days the disease will be invariably cut short, without causing the severe inflammation that always follows the use of powerful caustics.

Treatment of Acute Stage.—In the inflammatory stage of urethritis injections should seldom, if ever, be resorted to, as they are always liable to aggravate the symptoms. Attention to the hygienic surroundings of the patient is of the greatest importance. Exercise of all kinds should be avoided, and absolute quiet should be enjoined. The genital organs should be well supported by a suspensory bandage, but care should be taken that it does not irritate the parts. The diet should be nutritious, but not stimulating, and alcoholic stimulants should be entirely avoided.

At the commencement of the acute stage, if the bowels be constipated, it is well to administer a mild laxative, or even a cathartic. From $\frac{1}{8}$ to $\frac{1}{4}$ of a grain of podophyllin, given at bedtime and repeated till catharsis is produced, will be found to work well in the majority of cases. If the urine be scanty, some mild diuretic should be administered, and if it has an acid reaction, alkaline remedies should be given, to render it neutral.

If the inflammatory symptoms be severe, the application of a warm fomentation of hops, covering the genital organs, will prove of the greatest benefit. This should be changed once an hour till the symptoms begin to subside. The conditions demanding this treatment are easily recognized in the swollen and florid penis, the contracted meatus, and the great

sensibility of the urethra. In the majority of cases, however, the symptoms are not so severe, and the warm fomentations may be dispensed with, while very mild injections may be used with advantage. An injection of warm water is very grateful to the patient, and thoroughly cleanses the urethra, but in this, as in all injections for urethritis, the fluid should not be allowed to pass the whole length of the canal. In using an injection it has been customary to put the urethra on the stretch, and then force the fluid into it so that the entire canal is distended and filled to its greatest capacity. In this way the muco-purulent discharge is often forced into the deeper portions of the urethra, while the mucous membrane is irritated by the injection; and as the pus passes slowly over the now irritated surface in its effort to escape, it often awakens an inflammation along the entire course of the canal. To prevent this, the following instructions for injecting the urethra should always be given:

Grasp the penis just behind the gland with the thumb and forefinger, and make sufficient pressure to close the urethral canal at that point; then introduce the syringe into the meatus, and inject slowly. In this way the anterior part of the canal is thoroughly cleansed, and any benefit to be derived from the injection is secured, as this is the part affected by the disease.

After injecting the warm water in the acute stage, an anodyne injection will always afford great relief, and hasten the subsidence of the acute symptoms. Care must, however, be taken in the selection of the anodyne, so that the preparation used does not cause any new irritation. I generally use morphine according to the following formula:

℞ Morphiæ.....gr. iii.
Glycerinæ..... ℥ i.
Aquæ..... ℥ iii. M.

Sig. Use as an injection.

All injections should be used after micturition, and in the acute stage, when resorted to, the warm water should be used after every passage of urine, and it should be immediately followed by the above anodyne mixture.

Astringent or caustic injections in this stage of the disease should never be used, as they only aggravate the symptoms and often lead to serious complications. It should also be remembered that the low diet and other antiphlogastic treatment, formerly resorted to, always exhaust the strength of the patient, and often prolong the disease. Instead of such treatment, the tone of the system should always be kept normal, and wherever we find a patient with an enfeebled constitution, we must even resort to quinine, iron, and other tonics, from the very commencement of the disease.

The foregoing, with a due attention to cleanliness of the parts, will invariably hasten the decline of the acute stage of urethritis much more rapidly than a more officious and harsher treatment can possibly do.

Treatment of the Stage of Decline.—As soon as the inflammatory symptoms begin to decline a more vigorous treatment should be resorted to. The patient should have a good, generous diet, stimulants of all kinds should be avoided, the bowels should be kept in a soluble condition, and walking, riding, or any exercises liable to produce an irritation of the parts, should be carefully avoided.

The most important part of the treatment of this stage of the disease consists of the use of appropriate injections, which will invariably effect a cure when selected and used with proper care. Powerful caustic injections should never be used, as they tend to excite the inflammatory action, and thus cause exudations of plastic lymph in the submucous cellular tissue, which give rise to stricture of the urethra. Orchitis and sympathetic bubo are also liable to be

excited through sympathy with the irritation of the mucous membrane of the urethra, caused by harsh injections. In using injections in this, as in all other stages of urethritis, the injection should never be forced back the whole length of the canal. Even when the disease extends back a considerable distance, the injection should be prevented from reaching the prostate gland and neck of the bladder, by compressing the urethra with the thumb and index finger. This precaution will prevent inflammation of the neck of the bladder or prostate gland, which so frequently results from the careless use of injections.

Astringent injections are the most serviceable in this stage of urethritis, and a great variety are recommended as possessing almost specific properties in the cure of the disease. One of the best I have ever used consists of a solution of 2 grains of carbolic acid to the ounce of water, and enough hydrastin to make a mixture of the consistency of gruel. The carbolic acid acts as a disinfectant and a mild stimulant, while the hydrastin, which is held in suspension in the mixture, is deposited in the urethra, and acts as a valuable astringent. The following is the form in which I generally prescribe it:

℞ Acidi carbolici..... .....gr. xvi.
Hydrastin ..... ℥i.
Glyceriæ..... ℥ss
Aquæ ..... ℥ss M.

Sig. Use as an injection three or four times a day, after urinating.

If the patient complain of much pain, five or six grains of morphine may be added to the above mixture; but if the pain be very severe and continous, and much tumefaction of the penis be present, the astringent injection should be discontinued and the treatment recommended for the second stage again resorted to.

In some cases where the third stage has been of long duration, and there is much tenderness along the urethra, I have found good results from the use of a bougie, medicated with mild zinc ointment. The bougie

should be smeared with the ointment and introduced after the patient has voided the urine. It should be introduced as far as there appears to be any tenderness, and after leaving it in the urethra for about a minute, it should be gently withdrawn, while the lips of the meatus are pressed together to prevent the ointment from being withdrawn with the bougie. Every physician has a favorite injection for urethritis, from the use of which he feels that he has derived good results, and therefore it would be useless to attempt to give numerous formulæ, simply because cures have been known to follow their use.

Copaiba and Cubebs have long been used for the specific effect they have been supposed to possess over urethritis, but the experience of the present day does not warrant their use. They are disagreeable to take, and are followed by no good results that are not met with where they are not given. Any mild diuretic may be given where the flow of urine is deficient, and an alkali when the urine has an excess of acid. Other than this and attention to the general hygienic surroundings of the patient, no internal treatment is necessary for the cure of urethritis.

Treatment of Chordeé.—When painful nocturnal erections take place, care should be taken to arrange the bed-clothing so as not to produce irritation of the parts, and all excitement should be avoided. About two hours before bed-time twenty grains of bromide of potassium may be administered to the patient with good effect in many cases. Where this does not have the desired effect, from one to two grains of opium is the best remedy that can be used to control the erections. The object of treatment in chordeé is to control the erections till the absorption of the plastic lymph around the urethra is effected, and this can best be done, in most cases, by full anodynes.

The foregoing treatment has, in my hands, been followed with the most flattering results, and serious

complications, so commonly met with after the use of severe injections, have rarely occurred. I often succeed in aborting the disease by the use of an injection of permanganate of potash in the first stage, and in the third stage the discharge will often disappear after three or four days.

CHAPTER XIV.

GLEET.

The term "Gleet" is used, in common parlance, to designate a slight discharge from the male urethra, which is unattended by acute inflammatory symptoms. From the fact that this discharge is mucus in character, most writers have described it under the name of "Blennorrhœa," which signifies a flow of mucus. It is, however the result of a chronic inflammation of the mucous membrane of the urethra and may better be described as "chronic urethritis."

This condition generally follows a case of acute urethritis. Where the acute inflammation is unsuccessfully treated, or entirely neglected, the acute symptoms often subside into the chronic so gradually that it is difficult to draw a dividing line between them. In some cases, however, the disease seems to disappear entirely for several weeks, or even months, at the end of which time the patient discovers that the lips of the meatus are glued together in the morning, and that a little matter escapes from the urethral canal. Although the patient may have experienced no pain or inconvenience of any kind, it is certain that the disease was not entirely cured, but that the mucous membrane had taken on a chronically inflamed condition, which had for some time escaped notice. Again, gleety discharges are frequently kept

up by the presence of stricture of the urethra. A stricture keeps up an irritation of the mucous surfaces of the canal by pressing them together, and so long as the stricture lasts a chronic inflammation exists which keeps up a discharge. This is the most common cause of chronic urethritis where it follows the acute stage of the disease.

Sometimes a gleety discharge will appear in persons who never had acute urethritis, or any form of venereal disease. Such cases are generally spoken of as idiopathic gleet, and they may depend upon hypertrophy, or other affections of the prostrate gland, upon altered conditions of the urine resulting from diseases of the kidneys and bladder, and upon disorders of the digestive organs.

In most cases of gleet the patient will be found in a state of general debility, which is often the cause of the development of the chronic inflammation, and of its persistency. In all persons of a cachectic habit in whom there is a marked tendency to chronic inflammation of other mucous membranes, a gleety discharge is sure to follow an acute urethritis.

The symptoms of gleet are sufficiently marked to render a diagnosis very easy and certain. There is an entire absence of pain, redness or swelling of the penis; the lips of the meatus are in no way tumified or irritated; and the passage of the urine is rarely, if ever, attended by a scalding sensation. In fact, the slight discharge is the only symptom present, so that all the other symptoms are of a negative character. In some cases the discharge accumulates around the meatus, so that in the morning the lips are glued together sufficiently firm to temporarily arrest the passage of the urine, and thus cause a distention of the urethral canal, and a momentary sharp pain. In other cases the patient feels an uneasy sensation in the perineum and penis, an itching about the glans or in the deep portions of the urethra.

The character of the gleety discharge varies considerably at different times. Immediately after an attack of acute urethritis, it is purulent in character; but if a considerable time has elapsed, it is a transparent, viscid fluid, free from pus globules, or containing very few. In some cases the quantity of the discharge is considerable, while in others it is so small that it is only noticeable in the morning, when it is collected around the meatus and glues the lips together. If the disease be seated in the deeper portions of the urethra, or in the prostrate gland, a few drops of the discharge may escape during efforts at stool, or at the end of each act of micturition.

Anything that has a tendency to produce an irritation of the bladder or urethra, may excite an acute inflammation, and thus develop all the symptoms of acute urethritis, which would, of course, obscure all the symptoms that characterize chronic urethritis.

In the greater number of cases of gleet, the disease is situated in the deeper portions of the urethral canal, and is, no doubt, due to the extension of the inflammation, either from neglect or from forcing the discharges along the canal with strong injections. When the inflammation is thus extended, the inflamed substances press against each other, and a continual irritation is kept up, which develops a chronic inflammation as soon as the acute symptoms begin to subside. The same condition is present when the gleety discharge is due to the presence of stricture.

TREATMENT.—Concerning the treatment of gleet much diversity of opinion prevails, and the various methods of treatment have been praised and condemned in turn. All writers, however, agree as to the necessity of directing attention to the general health of the patient. As the general health must be lowered in the large majority of cases, in order that the chronic inflammation may be developed, the first object of the physician should be to restore the vital powers, so as

to enable the system to throw off the tendency to such inflammation.

A good, nutritious diet should always be resorted to, but stimulants of all kinds should be avoided. Tonics should be freely given till the general tone of the system is improved. The following will be found a valuable preparation in such cases:

℞ Ferri et Strychniæ Citratis..... ʒ ii.
Infus. Gentianæ Comp..... ℥ viii. M.
Sig. A tablespoonful three times a day, after meals.

Before commencing any local treatment, the urethra should be carefully examined with a bougie to ascertain whether there be a stricture or not. Should a stricture be detected, that must be overcome before we can expect to effect a cure. The subject of stricture will receive full consideration in another chapter, to which the reader is referred. If the canal be free from stricture, we should endeavor to ascertain the seat of the disease. This we can generally do by introducing the bougie and carrying the finger along the under surface of the urethra with the bougie in the canal. By pressing on the urethra, in this way, we will find that the diseased part is a little more sensitive than other portions of the canal. As a rule, however, where a gleety discharge is not dependent upon stricture, the chronic inflammation is not confined to one point, but extends over a considerable portion of the urethral mucous membrane.

Bougies frequently introduced into the urethra, and retained for two or three minutes at a time, are very beneficial in the treatment of gleet. The bougie should be introduced every alternate day at first, and afterwards every day for two or three weeks, when a cure will be effected in a majority of cases. The bougies should be large enough to well fill the urethra, and those tapering toward the extremity, with an olive-shaped point, are the best to use. It is supposed that bougies effect a cure by dilating the canal, and

thus keeping the surfaces apart for a short time, so that matter that would otherwise lodge in the canal is allowed to escape. They also stimulate the mucous membrane to such an extent that the sluggish action is thrown off, and a more healthy action established.

Sometimes the use of the bougies causes so much irritation that an acute inflammation is awakened. When this occurs, their use should be discontinued, and the case treated in the same manner as we would treat an ordinary acute urethritis, when a permanent cure will often be effected.

Medicated bougies have been extensively used and highly recommended by many physicians. I have frequently met with excellent results from the use of a bougie medicated with mild zinc ointment. The bougie may be anointed with this ointment and introduced once a day. It should remain in the urethra long enough to have the ointment softened or melted by the natural warmth of the canal, when it may be withdrawn, care being taken to press the anterior part of the canal against the bougie, so as to retain the ointment in the urethra.

Injections of various kinds have been recommended by writers for the treatment of gleet, but none of them have been followed by any very favorable results. The great objection to their use is that they must be forced along the entire length of the urethra in order to reach the affected part, and in this way they are apt to give rise to irritation of the prostate and neck of the bladder.

In some cases of gleet the most careful and persistent treatment fails to effect a cure, and we are often obliged to use some means to re-awaken an acute inflammation. The strong injections of nitrate of silver have generally been used for the purpose, but the same objection holds good here as does in the use of any other injections. These strong injections are almost certain to cause inflammation of the prostate

gland and neck of the bladder, and thus occasion much mischief. Instead of using injections in such cases, I adopt the following method: I take a bougie almost as large as the calibre of the urethra, and coat it with a layer of mucilage, leaving about an inch and a half of the point bare. When this hardens a little, I saturate it in a solution of nitrate of silver, 20 grains to the ounce, and then allow it to dry. After it has dried I coat it with another layer of mucilage, and again saturate it in the nitrate of silver solution. By thus coating the bougie two or three times it is prepared for use. It is now introduced into the urethra as far as may be deemed necessary, and retained there till the natural warmth of the canal softens the mucilage, which, with the silver solution absorbed by it, is retained in the canal by pressing the extremity of the canal against the bougie while it is being withdrawn. In this way we bring enough nitrate of silver in contact with the walls of the urethra to excite an active inflammation, while the uncoated end of the bougie prevents the possibility of irritating the prostate and neck of the bladder. The acute inflammation thus aroused throws off the sluggish and chronic condition the part had assumed; and now, if the inflammation be treated as has been recommended for acute urethritis, it will entirely disappear in a short time, when it will be found that the gleet has also disappeared. Before undertaking this method of treatment the patient should understand what the immediate effects will be, as the inflammation is sometimes quite severe, and if he be not expecting it he will be apt to blame his physician.

Those who follow this course of treatment will find it equally as successful as any that can be used, and in a large majority of cases cures may be effected by it when all others have failed.

CHAPTER XV.

BALANITIS.

Balanitis is the general term applied to an inflammation of the mucous membrane covering the glans penis and internal surface of the prepuce.

This affection may be produced by the same causes as give rise to urethritis. Sexual intercourse with women suffering from uterine or vaginal leucorrhœa or specific vaginitis, or intercourse immediately after the menstrual period, are among the most common exciting causes. Excessive coitus, want of cleanliness, and syphilitic eruptions affecting this membrane, also tend to develop it.

Persons in whom the prepuce is long, or in whom congenital phymosis exists, are the most liable to suffer from balanitis. This is due to the fact that the mucous membrane of the glans and prepuce are kept moist and sensitive from want of exposure to the air and friction; and, while in this condition, any acrid discharge coming in contact with it is certain to cause an irritation which is soon followed by an acute inflammation. In many cases of congenital phymosis the orifice of the prepuce is so small as to prevent the removal of sebaceous matter, and the accumulation of this matter, in such cases, is always sure to produce balanitis.

The discharge attending the inflammation is often

quite profuse, and, many times, very purulent in character. The seat of the disease may be easily brought into view by retracting the prepuce behind the glans penis, excepting where a phymosis exists. Sometimes, when phymosis is present, the disease may be mistaken for urethritis, but a close examination will always enable the physician to recognise the seat of the disease.

The symptoms of balanitis are very similar to those of urethritis. The extremity of the penis is tender to the touch; there is an itching beneath the prepuce; the urine produces a scalding, burning sensation, if it come in contact with the affected surface; the mucous membrane is sensitive on pressure, reddened, and presents patches darker than the surrounding surface, which indicates that the epithelium is detached at these points. When phymosis exists and the discharge cannot escape, it often collects at the base of the gland and produces an abscess. The prepuce often becomes œdematous from effusion of semen into the cellular tissue, and gives rise to temporary phymosis.

Treatment.—Cleanliness is of the first importance in the treatment of balanitis. Whenever the prepuce can be retracted, it should be done, and the mucous surface should then be washed with tepid water, so as to remove all particles of sebaceous matter that may have collected. This done, the inflamed surfaces should be kept apart, so as to favor a speedy resolution of the inflammation. If the discharge be not very profuse, a piece of muslin, saturated in sweet oil, may be placed over the glans penis and held in position by drawing the prepuce down over it. This dressing should be changed once a day for four or five days, when the inflammation will have entirely disappeared. When the discharge is profuse and purulent, I apply the oil, with the addition of five or six grains of carbolic acid to the ounce, in the same way as the above.

The following mixtures may also be applied with the muslin, and be followed by good results:

℞ Zinci Chloridi ..... gr. viii.
Morphiæ ..... gr. iii.
Glyceriæ .....
Aquæ ..... āā ʒ ii. M.

℞ Acidi Tannici ..... ʒ i.
Glyceriæ ..... ʒ ii. M.

℞ Hydrastin ..... gr. iv.
Zinci Sulphatis ..... gr. vi.
Glyceriæ ..... ʒ i.
Aquæ ..... ʒ ii. M.

When phymosis exists, the nozzle of a syringe, holding several ounces of water, should be introduced into the orifice of the prepuce and a stream of tepid water should be forced into the space between the glans and prepuce, in order to cleanse the parts as thoroughly as possible. Then a solution of carbolic acid, six grains to the ounce of water, should be thrown up in the same manner twice a day. If this be continued for four or five days, the acute symptoms will begin to subside, and, in a few days more, will entirely disappear. If much edema of the prepuce take place from infiltration into the cellular tissue, the patient should be kept perfectly quiet and the parts wrapped in cloths wet with cold water. If the distension be severe, the serum may be allowed to escape by making a few little incisions on the sides of the prepuce.

Attacks of balanitis are liable to be very frequent in persons with phymosis, and, in order to prevent repeated attacks, the phymosis should be relieved by an operation, which will be described in full in the next chapter.

CHAPTER XVI.

PHYMOSIS.

The term Phymosis is derived from a Greek word which signifies to tie or bind up, and is used to designate a constriction of the orifice of the prepuce, which renders it impossible to uncover the glans.

Phymosis may be congenital or accidental, although in the majority of cases it is congenital and may be accompanied by adhesions of the mucous membranes of the prepuce to that of the glans.

In congenital phymosis the condition is a malformation in which the preputial orifice is preternaturally small. In some cases this opening is so small that the head of a pin can hardly be introduced into it, while in others a portion of the glans may be exposed. Where the opening is small, the entrance of the urine between the prepuce and glans, and the accumulation of sebaceous matter, keep up a constant irritation, and in some cases a chronic inflammation. When an inflammation has continued for a time, adhesions of the contiguous surfaces take place. When the glans can be partly exposed, the parts can easily be kept clean, and, therefore, little inconvenience is felt.

Congenital phymosis causes great inconvenience to the individual afflicted with it, and often gives rise to

the following symptoms: Constant itching of the glans penis, frequent erections, seminal emissions, pain in head of penis, balanitis, imperfect development of testes and penis, incontinence of urine, and general lassitude.

Accidental phymosis may result from such causes as tend to thicken or contract the orifice of the prepuce, or enlarge the glans. Inflammation of the glans may cause it to enlarge to such an extent that for a time it cannot be passed through the preputal orifice, or an infiltration into the cellular tissue of the prepuce may render it so unyielding that it cannot be retracted. Chancrous sores around the orifice of the prepuce often leave cicatrices on healing, and these contract to such an extent as to leave the orifice permanently small.

The condition known as phymosis is easily recognized, and the important question to be considered is the means best adapted for its relief.

TREATMENT.—In all cases of congenital phymosis where unpleasant symptoms are manifested, the only way in which entire relief can be obtained is by circumcision. In the absence of an operation, the patient should be instructed to retract the prepuce as far as possible at each act of micturition, and to dry the meatus after the act, so as to prevent the urine from passing beneath the prepuce. If much balanitis be present, an injection should be forced in between the prepuce and glans, as before described in the treatment of balanitis.

Accidental phymosis, when due to inflammation of the prepuce or glans, will gradually pass away on the application of some simple local treatment; but when the orifice of the prepuce is contracted from the cicatrix of a chancre, it requires the same treatment as congenital phymosis. It has been considered unsafe to operate for the relief of phymosis when we were certain that there was a chancre between the prepuce

and the groin. The objection urged against operating in such cases was that the newly cut surface would become inoculated with the syphilitic poison from the chancre. This danger I consider much less than that which is likely to follow from a chancre remaining for a long time untreated under the prepuce; so that I invariably operate in such cases, and, by using the antiseptic treatment, I have never met with any unfavorable results.

Circumcision.—The best operation to accomplish circumcision may be described as follows: The penis is allowed to hang naturally, while a line is marked on the skin, with a pen and ink, over the corona of the glans. This line serves as a guide for the operator for making his incision. The prepuce is next drawn well forward until the line is in front of the glans, and it is grasped between the blades of a long forceps, which should be held by an assistant. The operator now grasps the extremity of the prepuce and puts it gently on the stretch. Now he transfixes the penis, in front of and close to the forceps, with a straight, sharp-pointed bistoury, and cuts downward to sever the first half of the flap, and completes the other half by turning the knife and cutting upward. The forceps are now removed, and the integument retracts so that its cut surface is carried behind the glans. The mucous membrane covering the glans, if it be in a healthy condition, is now slit up along the dorsum with scissors, and cut off nearly as far back as the corona. As soon as hemorrhage has stopped, the remaining portion of the mucous membrane is turned back and its edge is brought in coaptation with the edge of the integument, and retained in position by means of six or eight silk sutures. A dressing of cold water, or carbolic acid lotion, may then be applied, and a union takes place speedily. The sutures should be removed the second or third day, but if there be any tendency to a separation of the wound, they

should not all be removed at once. The patient should be kept in bed till a complete union takes place, and care should be taken to prevent irritation of the wound by friction of the clothes or contact of the urine.

In cases where the mucous membrane has become adhered to the glans, it must be separated by careful dissections, after which it may be cut off and turned back as just described.

The operation is a simple one, and so great is the benefit derived from it that we often recommend it when the prepuce is inordinately long and the subject suffers continuously with balanitis.

CHAPTER XVII.

PARAPHYMOSIS.

The term Paraphymosis is applied to that condition in which a constricted perputial orifice is retracted behind the corona of the glans, thus causing a strangulation of the extremity of the penis. This constriction soon gives rise to a swelling of the penis which is very great at the extremity.

The constriction is marked by a deep groove, and adhesions to the deeper tissues soon take place as the result of the inflammatory action. If the constriction be not relieved it will soon give rise to ulceration or gangrene and a considerable loss of tissue.

Paraphymosis often follows the retraction of the prepuce when in an inflamed condition, and boys often excite it by retracting the prepuce and irritating it so as to cause inflammation.

TREATMENT.—An effort should always be made to reduce a paraphymosis before the inflammation of the penis becomes too severe. Oedema of the prepuce may be reduced by rest in the horizontal position, a saline cathartic, and slight scarification in front of the stricture.

If there be much swelling, it is best to administer an anesthetic before attempting a reduction. The reduction is best affected by grasping the penis with the

hand behind the constriction, and steadily and firmly drawing the prepuce forward, while at the same time the glans is pushed gently backward by the thumb and forefinger of the other hand. If a reduction cannot be effected in a few minutes, the effort should not be continued, as it will only tend to aggravate the difficulty.

Rather than leave the constriction unreduced it should be relieved by a knife, even though not very severe. To accomplish this division, the glans is drawn well forward and downward so as to open up the groove, at the bottom of which is to be found the constricted preputial orifice, and the nail of the index finger is crowded under the constriction and over the nail the point of a knife is inserted on its side, when the edge is turned upward and the part cut sufficiently to overcome the constriction. The prepuce is then drawn down over the glans and the patient is kept quiet for a few days, till the inflammation subsides.

CHAPTER XVIII.

SWELLED TESTICLE.

Swelled testicle, or, more properly, epididymetis, is one of the most common complications of urethritis. It is more likely to follow the use of strong injections forced into the deeper portions of the urethral canal than to develop from a urethritis that is allowed to run its course without treatment. When an inflammation extends backward so as to involve the prostatic portion of the urethra, it is liable to affect the apertures of the ejaculatory ducts, and on account of the continuity of tissue it extends along the mucous membrane of these ducts to that of the vas deferens, and along this till it reaches the epididymis. The inflammation thus extended to the epididymetis may cause a swelling of that body alone, or it may also involve the testicle and its tunics. In some cases the patient complains of a dull pain in the perineum for several days before any swelling or tenderness is observed in the testicle, and the spermatic cord on the affected side becomes hard and swollen a little in advance of the testicle. In other cases, however, the pain and swelling of the testicle comes on without any evidence of inflammation of the cord, and some think that this inflammation traverses the vas deferens so rapidly that its effects are not felt in that vessel. Others

believe that swelled testicle may often be the result of sympathy, without any inflammation along the spermacetic tract, and certainly the development of many of these cases would seem to render this view quite probable.

Among the most common causes of swelled testicle as a complication of urethritis are—the use of severe caustic injections, irritation caused by the use of large bougies, and over-exercise or exposure to cold during an attack of urethritis.

The left testicle is more frequently involved than the right, but no satisfactory reason can be given why it is so. The epididymis is first affected by the inflammatory action, and the tunica vaginalis comes next, while the testicle proper is rarely involved, excepting in very severe cases. The spermatic cord sometimes appears hard and swollen before the epididymis, but in other cases it becomes involved after the tunica vaginalis.

Symptoms.—Sometimes there are no premonitory symptoms to point to the occurence of swelled testicle, while in other cases there may be a slight fever followed by a chill and a dull pain in the perineum and along the course of the spermatic cord. Then comes a pain in the testicle, and this organ soon becomes swollen and tender on pressure. The tenderness and swelling increase rapidly, and the thigh, leg, and lower region of the corresponding side are affected with severe pain. In the course of a day or two the scrotum becomes tense and of a dark red or purple hue, and often attains the size of the fist. The pain becomes so severe that sleep is impossible, and the least pressure of the part is almost unbearable. When the cord is involved the same symptoms extend along its course. A general symptomatic fever is usually present, the skin is hot and dry, the tongue is coated, the pulse is frequent and strong, and the patient becomes exceedingly nervous. The different

portions of the scrotal organs are so involved that it is difficult to distinguish one from the other. Careful examination, however, will reveal the enlarged condition of the epididymis, an effusion into the tunica vaginalis and œdema of the subscrotal cellular tissues. These conditions render the tumor soft and yielding on pressure. All cases are not so severe as this, and in a few the disturbance may be so slight that the patient is not prevented from attending to his daily occupation.

After a few days the symptoms begin to subside, and entirely disappear after two or three weeks, but the hardness and swelling of the epididymis remain for some time after all the other parts have assumed their natural conditions. In some cases, however, the acute symptoms gradually change into a chronic character, and the parts remain enlarged for a considerable time. This condition is most apt to occur in debilitated patients, and the least exciting cause is liable to reawaken the acute symptoms.

Both testicles are rarely affected simultaneously, but it often happens that as the inflammation disappears in one it commences in the other. When such cases occur it is evident that the inflammation of the second testicle is due to sympathetic action.

In most cases of swelled testicle the inflammation gradually subsides and the parts soon assume a natural condition; but sometimes abscesses form in the epididymis, in the body of the testicle or in the subscrotal cellular tissue, and the pus burrows in different directions so as to form sinuses. A portion of the parenchyma of the part in which the abscess is located is usually destroyed, and when a cure is effected the function of the testicle may be impaired.

In persons who are of a cachectic habit, a tubercular deposit often takes place in the epididymis, which retains an indurated knotty condition for a long time. This induration interferes with the power of reproduc-

tion, but even where a marked induration exists in the epididymis of both testicles, the sexual desires or powers are not interfered with, and ejaculations of semen devoid of spermatazoa take place.

TREATMENT.—The treatment of swelled testicles requires absolute rest in the recumbent posture, with the testes well supported by means of a small pillow between the legs or by a sling, so arranged as to remove the weight from the spermatic cords. Cold water dressings may be used with advantage in the majority of cases, but where cold water is not agreeable to the patient, warm may be substituted. In the early stages of the inflammation, I have found the following lotion of decided value:

℞ Ammoniæ Muriatis..... ʒ ii.
Spts. Rect..... ʒ i.
Aquæ..... ʒ vii. M.

A single layer of cloth should be kept wet with this lotion and applied to the affected part. Simple dressings of this kind, with perfect quiet, will usually hasten the subsidence of the acute symptoms.

In addition to the local dressings, a mild laxative of podophyllin may be administered two or three times a week; and when the patient complains of severe pain, particularly at bedtime, a full dose of hydrate of chloral will be serviceable.

In cases where there is a collection of fluid in the tunica vaginalis, it has been recommended to evacuate the fluid at once. My own experience has been that in the majority of cases the fluid is readily absorbed without any interference, and when I have evacuated the fluid, I have invariably found the symptoms aggravated for a time. When evacuation is deemed necessary, it is best to wait till the acute symptoms have subsided, when it will be attended with less danger.

If the above treatment be observed, the patient will rarely be confined to his room more than five or six days, and in the majority of cases the swelling

will entirely disappear in that time. After the patient begins to walk around, however, it is always well to support the testicles for some time, by means of a suspensory bandage.

When the parts remain indurated after the acute symptoms have entirely subsided, absorption may be hastened by the application of strips of adhesive plaster, so applied as to produce even pressure over the surface of the testicle. The hair should be removed from the scrotum before applying the plaster. This done, the unaffected testicle is forced down to the lower part of the scrotum, and an adhesive strap, three-quarters of an inch wide, is drawn firmly around the affected side of the scrotum, just above the enlarged testicle. Now, other straps of the same width are applied in such a manner that each overlaps the previous one about one-third its width, care being taken that they all fit smoothly, till all but the bottom of the testicle is covered. This lower portion of the testicle should then be covered with straps applied longitudinally, and the whole is then held in place by winding a long narrow strap several times around the testicle. As soon as the plasters seem loose they should be removed, and new ones applied in the same manner.

The plasters will usually require changing every four hours till the testis has been reduced to nearly its normal size. During the continuance of this treatment, a bandage should be worn continuously, to support the weight.

In all cases the diet should be nourishing, but not stimulating, and when an induration remains after the acute symptoms have disappeared, it is always advisable to alternate the use of tonics and alteratives as a general treatment.

If a urethral discharge exist after the development of swelled testicle, it should be treated the same as if no complication were present, but care must always be taken that strong injections be not used.

CHAPTER XIX.

PROSTATITIS.

Inflammation of the prostate is not a very common affection, and yet it is met with often enough to demand a separate consideration. It is divided into acute and chronic prostatitis.

ACUTE PROSTATITIS.—There are numerous causes which tend to develop acute prostatitis. Among these may be mentioned the violent use of sounds, catheters or lithotroty instruments caustic applications to the deeper portions of the urethra; the irritation of stone in the bladder; the pressure of stricture of the urethra; excessive coitus; the use of harsh urethral injections; and the extension of the inflammation of specific urethritis to the prostate gland.

It is most frequently met with as a complication of specific urethritis, and, as such, it comes on when the deeper portions of the urethra are involved in the inflammatory action. The first symptoms that manifest themselves are a frequent desire to urinate and a fullness or dull pain in the perineum. In a short time the desire to urinate becomes still more frequent, the stream is small and is forced out with great difficulty, and when it does pass, it is attended with a scalding sensation at the neck of the bladder. Sometimes only a few drops of urine can be void-

ed, while, at other times, there may be complete retention. The bowels are constipated in a majority of cases, and they are rendered more so from the fact that the act of defecation is attended with severe pain, which causes the patient to control the desire to defecate. The sense of fullness in the rectum often causes the patient to make efforts at stool without effecting any motion of the bowels. The system sympathizes with the disease, so that general febrile symptoms manifest themselves. By passing the finger into the rectum, enlargement and extreme sensitiveness of the prostate can be detected, and if an attempt be made to pass a bougie beyond the region of this gland the suffering of the patient becomes very severe.

The duration of an attack of acute prostatitis depends on the severity of the inflammatory symptoms, and it may terminate in resolution, suppuration, or gangrene. In the majority of cases the acute symptoms begin to subside in three or four days, and complete resolution takes place by the end of the third or fourth week. Should the intensity of the disease continue to increase for eight or ten days, the patient will be liable to have repeated chills, followed by high fever and a general depression of the vital powers, with a deep-seated, throbbing pain in the prostate, which are the characteristic symptoms of approaching suppuration. Occasionally, however, suppuration takes place without these symptoms being well marked, and the abscess may have existed for some time before it is detected. The finger introduced into the rectum can easily detect the fluctuation of the abscess.

Prostate abscesses usually point toward the urethra, and empty their contents into that canal, but they may also open into the rectum, bladder, or surrounding cellular tissue. In a few cases they have been known to communicate with both the bladder

and rectum, thus giving rise to urinary fistula. Gangrene of the prostate is of very rare occurrence, and when it does occur, it is in persons of a low degree of vitality, and the prognosis must be very unfavorable.

Treatment.—As soon as symptoms of inflammation of the prostate begin to appear, the treatment of the urethritis should be discontinued, and attention given to the new complication. Rest in the recumbent position must be enforced as of the first importance in the treatment of this disease. A hot sitz-bath, morning and evening, with warm fomentations of hops freely applied to the perineum during the day, will be found of decided advantage in controlling the inflammatory action. The muriate of ammonia lotion, recommended in swelled testicles, will also be found valuable as an application to the perineum. Bicarbonate of potash or soda may be given internally for the special benefit they may have upon the neck of the bladder. Small doses of gelsemin and populin will be found particularly valuable in the early stages of the disease, and they may be continued throughout the entire treatment. The populin acts as a diuretic, and the gelsemin tends to relax the tension of the neck of the bladder and the urethra, thus rendering the passage of urine less painful. In this, as in all other affections, it is a great mistake to keep the patient on a low diet, for it often happens that, in the more advanced stages, the strength of the patient becomes greatly reduced. To avoid this, the diet should be wholesome and nourishing, but not too stimulating. When there is any tendency to debility, tonics should be freely used from the commencement of the disease. The bowels should be kept in a soluble condition by small doses of podophyllin, morning and evening, and the rectum should be relieved of any impacted feces by an occasional warm enema. When the pain is very severe and the patient unable to sleep, a

full dose of hydrate of chloral may be given at bedtime.

When the urine is retained, it should be drawn off with a catheter, but care should be taken that no violence be used in introducing the instrument. When the finger in the rectum can detect the fluctuation of an abscess, it is always the safest plan to open into the abscess through the intestinal wall. This is best done by means of a long and slender curved canula and trochar, which may be carried up along with the index finger and forced into the soft tumor, when the trochar may be withdrawn, thus leaving a canal through which the pus may discharge. When such an instrument is not at hand, a rectal speculum, with a fenestra on the side, may be passed gently into the rectum, and the abscess may then be opened with any ordinary scalpel.

CHRONIC PROSTATITIS.—An acute inflammation of the prostate gland may gradually run into a chronic condition, and cause much annoyance for years. Sedentary habits and excessive coitus, however, more frequently tend to produce chronic prostatitis than does the acute inflammation of the gland, resulting from urethritis.

The most common symptoms of chronic prostatitis are a clear and transparent discharge of mucus from the meatus; an increased desire to urinate; the forced ejection of the stream; the dribbling away of the last drops of urine, or their expulsion after great effort; a scalding sensation during and after the passage of the urine; pain and uneasiness in the perineum, thighs and lumbo-sacral region; irritation about the anus and rectum, sometimes attended by hemorrhoids; and constipation of the bowels, with difficult and painful defecation. When a catheter is passed into the bladder, it causes severe pain in its passage through the prostate, and, on examination by the

finger in the rectum, the gland is found to be sensitive on pressure, tumefied, and sometimes indurated. The patient is nervous, low spirited, incapable of mental or physical exertion, complains of weakness, headache and dyspepsia, watches his own symptoms closely, thinks he is losing his memory, and imagines he is afflicted with numerous diseases.

This affection does not terminate in suppuration nor in chronic hypertrophy, although it is very obstinate.

Treatment.—The most important part of the treatment of this disease consists in a proper understanding of the mental condition of the patient. He is generally gloomy and despondent, and believing that he is constantly loosing the seminal fluid, and that he has become impotent, he may often contemplate suicide. Seeing this the physician should strive in the onset to gain his confidence; and, having done so, he can express a sympathy for his condition, but at the same time speak encouragingly of his ultimate recovery. The mind of the patient should be constantly occupied on something agreeable; so as to divert his attention as much as possible from his condition. A good nourishing diet should always be given, and outdoor exercise regularly enforced. Contrary to the commonly accepted notion that a hearty meal before bedtime is injurious, I always recommend it in these cases. Despondency is always accompanied by a fullness of the cerebral circulation, and if the stomach be active, a portion of the blood is withdrawn from the brain to the stomach, and sleep is much more likely to occur.

Iron as a tonic is always a great advantage from the commencement of the disease; but where there is much nervous prostration, the following may be given:

℞ Strychniæ.....gr. i.
Acidi Phosphorici diluti.....ʒ ss.
Syrupi Simp.....ʒ iiiss. M.

Sig. A teaspoonful three times a day before meals.

The constipated condition of the bowels may be

corrected by mild saline cathartics given in the morning, or by enema at bedtime.

Local applications rarely prove of any advantage, and may as well be dispensed with. A moderate sexual indulgence is beneficial rather than otherwise, as it relieves the irritability of the genital organs and prevents an unnatural loss of semen which often attends this disease.

A proper attention to the general health of the patient, proper hygienic surroundings, and pleasant company will accomplish more than medicine in the cure of this disease, and these facts should not be lost sight of by physicians.

CHAPTER XX.

STRICTURE OF THE URETHRA.

Without entering into any description of the anatomy of the male urethra and the parts immediately surrounding it, I shall at once pass to a consideration of the nature of stricture.

The term stricture is applied to that condition of the urethra, frequently resulting from urithritis, in which there is a constriction in the calibre of the canal, sufficient to interfere with the natural passage of the urine.

Some writers divide strictures into Transitory and Permanent, but a division into Spasmodic and Organic is more preferable, as these terms give us a better understanding of the nature of the stricture.

SPASMODIC STRICTURE.—In many cases of urithritis where the congestion and inflammation extends to the deeper portions of the canal, a marked spasmodic action of the muscular layer which surrounds the urethra takes place. This action is doubtless excited by the irritation of the mucous membrane of the urethra, as it never occurs without irritation of that membrane.

Persons of a nervous, irritable nature are the most liable to be affected by this urethral spasm on the application of any exciting cause.

Among the causes of spasmodic contraction of the urethra may be mentioned the introduction of sounds, catheters, or bougies into the urethra; laceration or abrasion of the mucous membrane; irritation about the rectum from any cause; the presence of a stone in the bladder or urethra; long retention of urine; excessive or sudden changes of temperature; excessive coitus; and mental emotions.

The duration of a spasmodic stricture is short, and there is no severe pain accompanying it. It appears suddenly, and as suddenly disappears. All the symptoms of stricture may be present, and even when a sound is introduced into the urethra it may meet with considerable obstruction at first, but suddenly the obstruction disappears and the sound is passed the entire length of the urethra without difficulty.

As a certain amount of inflammation is always present in spasmodic stricture, the calibre of the urethra must be more or less diminished on account of the swelling attendant upon the inflammation, and consequently the volume of the stream of urine must be diminished, even when no spasm is present. When the spasm comes on it may cause a retention of urine for a considerable length of time.

ORGANIC STRICTURE.—The plastic lymph thrown out as a product of urethral inflammation is usually absorbed, while the calibre of the canal recovers its normal condition, but in some cases it becomes organized and manifests a tendency to contract and give rise to permanent contractions of the canal. This lymph is effused into the substance of the mucous membrane; into the cellular tissue beneath it, and sometimes into the more external tissues, and as it becomes organized it assumes a fibro-plastic character. As this plastic material continues to be thrown out and organizes into a firm inelastic mass, it presses together the walls of the urethra and thus encroaches

on the calibre of the canal. Thus, deposition, and organization of lymph may go on till the canal is almost, if not entirely closed.

Strictures are always located at such points as are most likely to be the seat of the greatest amount of inflammation with the least tendency to terminate in speedy resolution. When harsh injections are used and forced into the deeper portions of the canal, an inflammation is often excited at the sub-pubic curve, which is soon followed by the effusion of plastic lymph in considerable quantities, so that strictures are frequently located at this point. They occur next in frequency at a point about midway between this curve and the anterior extremity of the canal. They may, however, occur in any portion of the urethra that is surrounded by erectile tissue.

Symptoms.—A gleety discharge from the urethra is one of the earliest symptoms of organic stricture. The patient also finds himself unable to retain his urine any length of time, and when he attempts to urinate he must make several efforts before the urine starts. The stream is diminished in size, and is sometimes flattened from above downward, spiral, forked, or divided into two or more portions, and is not voided with the natural degree of force. In addition to these symptoms, there is a disagreeable pain attending the passage of the urine, a dull aching in the perineum, or glans penis, and sometimes a sharp, shooting pain along the urethra or at the neck of the bladder.

These symptoms all become aggravated as the disease advances, and the patient is often wholly deprived of sleep by the frequent desires to urinate, and the length of time required for the act.

As the stricture increases, retention of urine may take place, and the bladder may be so distended as to cause a rupture of its walls. Sometimes the urethra behind the stricture becomes greatly distended and finally ruptures. In such cases the condition of the

patient becomes critical and requires prompt management.

The repeated and severe efforts to evacuate the bladder often give rise to hemorrhoids, prolapsus ani, and other irritations about the rectum.

Diagnosis.—While the preceeding symptoms may enable us to determine the presence of stricture of the urethra, yet, before deciding definitely, the urethra should be explored by means of catheters or bougies. The patient is placed in a recumbent position and an ordinary sized catheter or bougie is introduced carefully into the urethra. Should any obstruction be met with, it may be partially withdrawn, and in a few moments again advanced. If the obstruction be still present, a very slight pressure may be applied to the instrument. In some cases the resistance may yield suddenly, and the instrument can then be readily passed the whole length of the canal. This would usually indicate the presence of a spasmodic stricture, and the same difficulty would always be felt in introducing an instrument, till the irritation, giving rise to the spasm, was entirely removed. If the resistance be permanent, a smaller instrument should be used, but if we fail to pass a No. 5 bougie, we have positive evidence of an organic stricture.

TREATMENT OF STRICTURE.—The general treatment of patients suffering from stricture must be hygienic and supporting. Good diet, perfect digestion, fresh air, moderate exercise, and a free use of tonics in debilitated persons, must always be considered of the first importance.

The special treatment must be modified according to the symptoms. In spasmodic stricture the exciting cause must first be ascertained, and that removed, if possible. Mild injections for the existing urethritis may be continued, and an infusion of gelseminum may be thrown into the urethra, morning and evening, to

control the spasm. The internal use of full doses of gelsemin and populin are very beneficial in controlling the spasm and allaying the irritation of the neck of the bladder. If the spasms be severe during the night, they are best controlled by chloral hydrate.

In the organic stricture, the object of the treatment is to promote the absorption of the organized plastic lymph, and in that way remove the material that is encroaching upon the natural calibre of the urethral canal. Experience has shown that this object cannot be accomplished by the use of internal remedies, and that dilatation of the constricted canal is the most successful method of accomplishing the desired object.

Dilatation.—That a judicious dilatation of the urethra does relieve the symptoms of stricture is well established, but the beneficial results of this method of treatment do not depend upon the simple dilatation of the urethral canal. In all cases where we meet with organized plastic lymph, we know that its absorption can be hastened by a properly applied pressure, and the organized plastic lymph that causes organic stricture is no exception to the rule. The introduction of dilating instruments into the urethra enables us to make pressure on the plastic lymph, and, in some cases, the layers of the lymph are torn by the dilatation, and, in that way, the stricture is temporarily relieved and the lymph is rendered more soluble by each dilatation, till at last it is entirely absorbed and the natural calibre of the urethra restored.

Different methods of dilatation are recommended by different writers. Some recommend the introduction of a bougie small enough to pass the constricted portion on the start, and then, use a size larger at every attempt to introduce one, till a large sized instrument can be used. Others again commence with a bougie large enough to fill the canal, and after introducing this one as far as possible, it is withdrawn, and a size smaller introduced, which can be inserted

further than the preceding one. In this way, the size of the bougie may be decreased, till one is passed through the stricture. Then the sizes may be again increased at each introduction, till a full size instrument can be readily passed through the restricted portions of the canal.

A rapid dilatation is best effected by the latter method, as it is attended with less danger of wounding the mucous membrane. Rapid dilatation should, however, never be attempted unless the canal is completely closed, and the patient is unable to pass his urine.

The surgeon must always work with care and patience when treating these cases, as time is always necessary to effect a cure.

In some cases, even after a stricture has been dilated so that a No. 12 bougie could be introduced, contraction again takes place, and the case is as bad as before. Many surgeons divide the stricture with an urethratome in such cases, but it is not often that this treatment is followed by results sufficient to induce the surgeon to continue the practice. A forcible dilatation, with an expanding instrument, is best in such cases. For this purpose I have been pleased with the use of a new dilator, invented by Dr. Wm. Molesworth, of New York, called the Climax Dilator. It consists of a dilatable rubber tube, about the size of a No. 6 bougie, which may be dilated to any desired size by means of water forced into it by a force-pump, worked with a screw. It can be retained as long as desired, and when it is withdrawn it is reduced to its original size by turning a stop-cock and allowing the water to pass off.

The application of caustics to the seat of strictures, and a perineal section of the stricture, have both been recommended for the relief of this disease, but the dangers attending them, hardly warrant their employment.

In cases of retention of urine the system should be relaxed by the administration of an anesthetic, and after locating the stricture, careful efforts should be made to pass the stricture with a very small catheter; after passing the catheter, it should be retained, in order that subsequent trouble may be avoided, and it can be withdrawn when we wish to make efforts at dilatation. This of course is only to be resorted to when other means fail.

Should all efforts of this kind fail, the bladder will have to be punctured, either from the rectum, or over the pubis. For these operations, the reader is referred to any of the standard works on surgery.

CHAPTER XXI.

GONORRHŒA IN WOMEN.

Gonorrhœa is not so commonly met with in women as in men, and this is no doubt due to the fact that the mucous membrane of the genital organs in women is protected against the action of specific poisons by the sebaceous and other mucous secretions which cover it. The mucous membrane of the vagina, uterus, vulva or urethra, may be the seat of a specific inflammation, although the vagina is the part most commonly affected by this disease.

The symptoms of a specific inflammation of any part of the mucous membrane of the genital organs in the female, do not differ from the symptoms of inflammation of other mucous membranes. There is a gradual development of swelling, redness and tenderness, and an increase of the secretion of the part, with a change in its character. The discharge is at first of a mucous character, then it becomes muco-purulent, and finally purulent. The inflammation may be confined to one portion of the vagina, or it may extend to the whole surface, and from that to the mucous membrane covering the cervix uteri. It may also attack the vulva at the same time and extend even to the urethra. Sometimes the vulva and urethra are alone affected; when these parts are in-

volved, the passage of the urine is attended with the same scalding sensation as in the male.

Much has been said about the characteristic symptoms which distinguish simple from specific inflammation of the genital mucous membrane in the female, but when we have ascertained that an inflammation exists we cannot go further. We may suspect its venereal origin from the history of the case, but cannot positively assert it from any symptoms we can detect, even by the aid of the speculum.

Treatment.—During the continuance of an acute inflammation of any portion of the mucous membrane of the female genital organs, rest must be insisted upon. Hot sitz-baths, repeated two or three times a day, bathing of the vulva and injections of warm water into the vagina, will prove grateful to the patient. In severe inflammation of the vulva, a warm fomentation of hops, changed once in an hour, will prove of decided advantage in many cases. The labia should be separated by a piece of lint, saturated in some anodyne lotion. If the pain be severe and the patient unable to sleep, hydrate of chloral may be given at bedtime, and occasionally during the day. The bowels should be kept regular by an occasional dose of podophyllin, the general hygienic surroundings should be made as favorable as possible.

When the acute symptoms begin to subside, injections of tepid water should be freely used two or three times a day, so as to keep the parts as cleanly as possible. After these injections of water, some astringent injections should be used.

One of the best injections that can be used, is the following:

℞ Acidi Carbolici (Cryst.) ..... ʒ i
Hydrastin ..... ʒ ii
Glycerinæ ..... ʒ ii
Aquæ ..... ʒ vi. M.

Sig. Shake well and add a tablespoonful to half a pint of tepid water, which is to be used as an injection twice a day.

When the vulva and urethra are affected, the diluted wash above given should be injected into the urethra, and the vulva washed with the same two or three times a day.

Diuretics may be given, if the secretion of the urine be scanty, but otherwise they are unnecessary.

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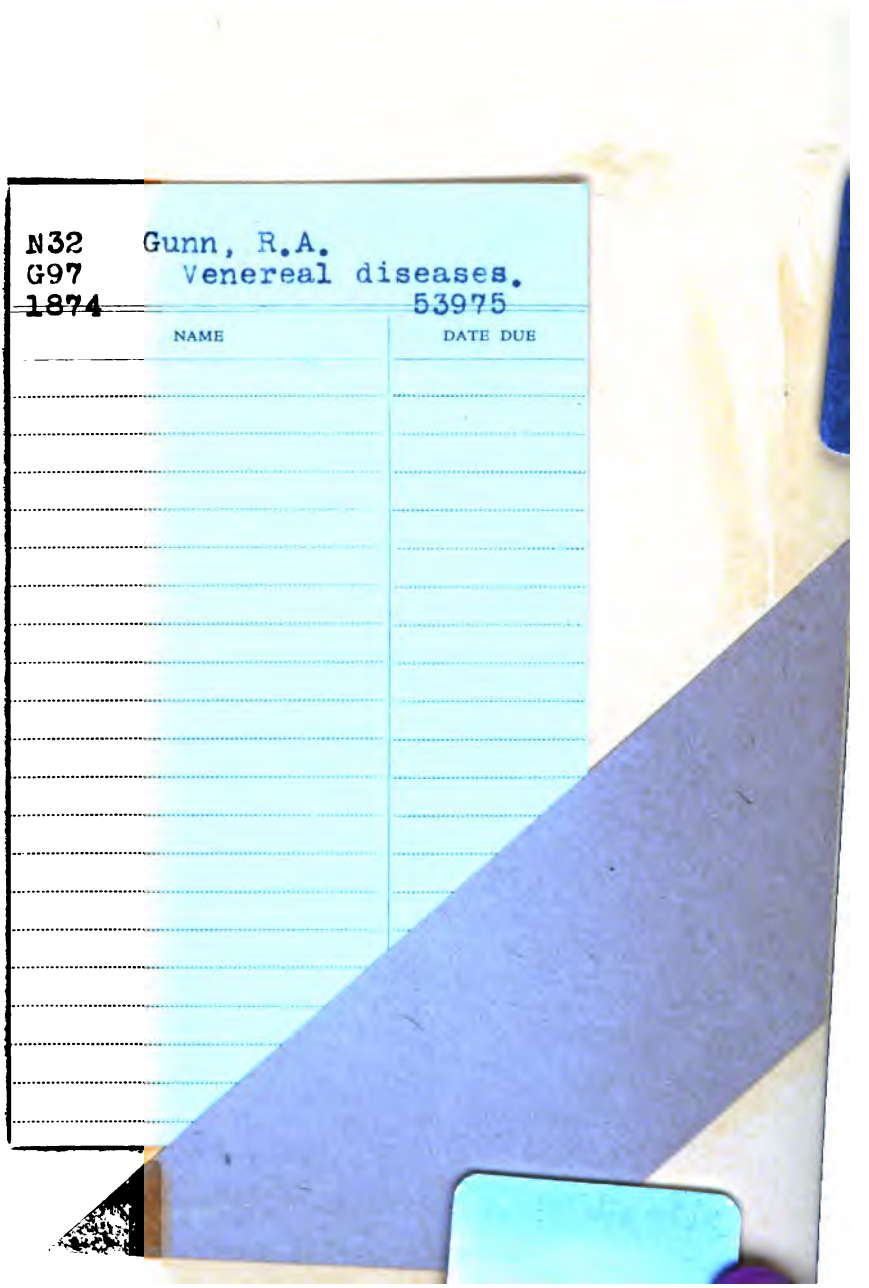
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